

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A01R-01-BAC** **Piney Run**

Location: Begins at the mouth of an unnamed pond on Piney Run and continues downstream until the confluence with the Potomac River.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (6 of 24 samples - 25.0%) from station 1aPIA001.80, at Route 671.

Piney Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			3.51

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland	Sewage Discharges in Unsewered Areas
Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl	

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A02R-01-BAC** **Catoctin Creek**

Location: Begins at the confluence with Milltown Creek, approximately 1.2 rivermiles downstream of Route 673, and continues downstream until the confluence with the Potomac River.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (7 of 4 samples - 17.5%) from station 1aCAX004.57, at Route 663.

Catoctin Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			7.21

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland	Sewage Discharges in Unsewered Areas
Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl	

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A02R-02-BAC**

North Fork Catoctin Creek

Location: Begins at the confluence of an unnamed tributary to North Fork Catoctin Creek, approximately 0.8 rivermile upstream from Route 719 near Hillsboro, and continues downstream until the confluence with Catoctin Creek.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Escherichia coli / 5A

Fecal Coliform / 4A

2006 Assessment: Fecal coliform bacteria criterion excursions (2 of 7 samples - 28.6%) from station 1aNOC000.42, at the Route 681, E. coli bacteria criterion excursions (3 of 3 samples - 100%) from station 1aNOC007.28, at Route 611, and E. coli bacteria criterion excursions (4 of 10 samples - 40.0%) from station 1aNOC009.37, at Route 812.

North Fork Catoctin Creek

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

5.60

North Fork Catoctin Creek

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Fecal Coliform - Total Impaired Size by Water Type:

4.12

Sources:

Grazing in Riparian or
Shoreline Zones

Livestock (Grazing or
Feeding Operations)

Sewage Discharges in
Unsewered Areas

Source Unknown

Waterfowl

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A02R-02-BEN** **North Fork Catoctin Creek**

Location: Begins at the confluence with an unnamed tributary to North Fork Catoctin Creek, approximately 0.2 rivermile downstream from the Route 287 bridge, and continues downstream until the confluence with Catoctin Creek.

City / County: Loudoun Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2006 at station 1aNOC000.42 (Route 681) both resulted in a VSCI score which indicates an impaired macroinvertebrate community.

North Fork Catoctin Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			4.12

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A02R-03-BAC** **South Fork Catoctin Creek**

Location: Begins at the headwaters of South Fork Catoctin Creek and continues downstream until the confluence with Catoctin Creek.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Fecal Coliform / 4A

E. coli bacteria criterion excursions (3 of 9 samples - 33.3%) from station 1aS0C001.66, at Route 698, E. coli bacteria criterion excursions (6 of 10 samples - 60.0%) from station 1aS0C007.06, at Route 738. 2006 Assessment: Fecal coliform bacteria criterion excursions (3 of 8 samples - 37.5%) from station 1aS0C012.38, at Route 690.

South Fork Catoctin Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			8.82
South Fork Catoctin Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			8.57

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Sewage Discharges in Unsewered Areas	Waterfowl
Wildlife Other than Waterfowl			

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Potomac and Shenandoah River Basins

Cause Group Code **A02R-03-BEN** **South Fork Catoctin Creek**

Location: Begins at the northwest corner of the town of Purcellville, approximately 0.48 rivermiles upstream from the Route 690 bridge, and continues downstream until the confluence with Catoctin Creek.

City / County: Loudoun Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

One of two biological monitoring events in 2006 at station 1aS0C000.01 resulted in a VSCI score which indicates an impaired macroinvertebrate community, two biological monitoring events in 2005 at station 1aS0C007.06 (Route 738) both resulted in a VSCI score which indicates an impaired macroinvertebrate community, two biological monitoring events in 2005 at station 1aS0C010.09 (Route 711) both resulted in a VSCI score which indicates an impaired macroinvertebrate community, one biological monitoring event in 2001 and one biological monitoring event in 2003 at station 1aS0C011.98 (Route 611) both resulted in a VSCI score which indicates an impaired macroinvertebrate community, and one biological monitoring event in 2001 at station 1aS0C012.60 (Route 690) resulted in a VSCI score which indicates an impaired macroinvertebrate community.

South Fork Catoctin Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			12.22

Sources:

Commercial Districts (Industrial Parks)	Non-Point Source	Source Unknown
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Potomac and Shenandoah River Basins

Cause Group Code **A02R-05-BAC** **Milltown Creek**

Location: Begins at the confluence with an unnamed tributary to Milltown Creek, approximately 0.34 rivermile upstream from Route 681 near Milltown, and continues downstream until the confluence with Catoctin Creek.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (4 of 10 samples - 40.0%) from station 1aMIH001.98, at Route 673.

Milltown Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			3.66

Sources:

Source Unknown

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Potomac and Shenandoah River Basins

Cause Group Code **A02R-06-BAC** **Unnamed tributary to Catoctin Creek**

Location: Begins at the confluence with an unnamed tributary, approximately 1.2 miles upstream from the Route 693 crossing, and continues downstream until the confluence with Catoctin Creek, at rivermile 9.81.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (6 of 10 samples - 60.0%) from station 1aXJT002.22, at Cottage Grove Lane.

Unnamed tributary to Catoctin Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			3.92

Sources:

Source Unknown

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Potomac and Shenandoah River Basins

Cause Group Code **A03R-01-BAC** **Limestone Branch**

Location: Begins at the headwaters of Limestone Branch and continues downstream until the confluence with the Potomac River.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (9 of 26 samples - 34.6%) from station 1aLIM001.16, at Route 15.

Limestone Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			4.75

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Sewage Discharges in Unsewered Areas	Wastes from Pets
Waterfowl	Wildlife Other than Waterfowl		

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Potomac and Shenandoah River Basins

Cause Group Code **A03R-02-BAC** **Clarks Run**

Location: Begins at the confluence with an unnamed tributary to Clarks Run, at rivermile 4.62, and continues downstream until the confluence with the Potomac River.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 6 samples - 50.0%) from station 1aCLK002.40, at Route 658.

Clarks Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			4.92

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A03R-03-BAC** **Unnamed tributary to Limestone Branch**

Location: Begins at the confluence with an unnamed tributary and continues downstream until the confluence with Limestone Branch.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (11 of 18 samples - 61.1%) from station 1aXAQ000.85, at Route 661.

Unnamed tributary to Limestone Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			1.88

Sources:

Source Unknown

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Potomac and Shenandoah River Basins

Cause Group Code **A04R-01-BAC** **Goose Creek**

Location: Begins at the confluence with Kettle Run, at rivermile 46.51, and continues downstream until the confluence with Bolling Branch, at rivermile 42.35.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (9 of 16 samples - 56.2%) from station 1aGOO044.36, at Route 17.

Goose Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			4.15

Sources:

Source Unknown

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Potomac and Shenandoah River Basins

Cause Group Code **A04R-02-BAC** **Gap Run**

Location: Begins at the confluence with an unnamed tributary to Gap Run, just downstream from Route 712, and continues downstream until the confluence with Goose Creek.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

2006 Assessment: Fecal coliform bacteria criterion excursions (4 of 9 samples - 44.4%) from station 1aGAR002.24, at Route 623.

Gap Run	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			3.01

Sources:

Source Unknown

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Potomac and Shenandoah River Basins

Cause Group Code **A04R-03-BAC** **Crooked Run**

Location: Begins at the confluence with an unnamed tributary to Crooked Run, just downstream from Route 724, and continues downstream until the confluence with Goose Creek.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

2006 Assessment: Fecal coliform bacteria criterion excursions (3 of 7 samples - 42.8%) from station 1aCRA000.42, at Route 623.

Crooked Run	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			1.81

Sources:

Source Unknown

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Potomac and Shenandoah River Basins

Cause Group Code **A04R-04-BAC** **Bolling Branch**

Location: Begins at the confluence with an unnamed tributary to Bolling Branch, just upstream from Route 723, and continues downstream until the confluence with Goose Creek.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 6 samples - 50.0%) from station 1aBOL002.56, at Justice Lane.

Bolling Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			3.25

Sources:

Source Unknown

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Potomac and Shenandoah River Basins

Cause Group Code **A05R-01-BAC** **Cromwells Run**

Location: Begins at the confluence with an unnamed tributary to Cromwells Run, approximately 0.78 rivermile downstream from Route 715, and continues downstream until the confluence with Rocky Creek, approximately 0.4 rivermile downstream from Route 50.

City / County: Fauquier Co. Loudoun Co.

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 4A

2006 Assessment: Fecal coliform bacteria criterion excursions (6 of 18 samples - 33.3%) from station 1aCRM001.20, at Route 50.

Cromwells Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			3.60

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Sewage Discharges in Unsewered Areas
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Potomac and Shenandoah River Basins

Cause Group Code **A05R-01-BEN** **Wancopin Creek**

Location: Begins at the confluence with an unnamed tributary to Wancopin Creek, just upstream from Route 50, and continues downstream until the confluence with Goose Creek.

City / County: Loudoun Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2002 at station 1aWAC003.31 (Route 50) both resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Wancopin Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			3.19

Sources:

Source Unknown

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Potomac and Shenandoah River Basins

Cause Group Code **A05R-02-BAC** **Goose Creek**

Location: Begins at the confluence with Wancopin Creek, at rivermile 23.46, and continues downstream until the confluence with North Fork Goose Creek, at rivermile 16.58.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

2006 Assessment: Fecal coliform bacteria criterion excursions (4 of 25 samples - 16.0%) from station 1aGOO022.44, at Route 734.

Goose Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			7.21

Sources:

Source Unknown

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Potomac and Shenandoah River Basins

Cause Group Code **A05R-03-BAC** **Goose Creek**

Location: Begins at the confluence with an unnamed tributary to Goose Creek, at rivermile 35.28, and continues downstream until the confluence with Rocky Creek.

City / County: Fauquier Co. Loudoun Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (8 of 17 samples - 47.0%) from station 1aGOO030.75, at Route 611, and E. coli bacteria criterion excursions (4 of 12 samples - 33.3%) from station 1aGOO034.20, at Route 624.

Goose Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			5.24

Sources:

Source Unknown

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Potomac and Shenandoah River Basins

Cause Group Code **A05R-04-BAC** Panther Skin Creek

Location: Begins at the headwaters of Panther Skin Creek and continues downstream until the confluence with Jeffries Branch.

City / County: Fauquier Co. Loudoun Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (7 of 12 samples - 58.3%) from station 1aPAE004.21, at Route 719.

Panther Skin Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			5.01

Sources:

Source Unknown

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Potomac and Shenandoah River Basins

Cause Group Code **A06R-01-BAC** **North Fork Goose Creek**

Location: Begins at the outlet from Sleeter Lake and continues downstream until the confluence with Crooked Run, 0.35 rivermile upstream from Route 729.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A Escherichia coli / 5A

E. coli bacteria criterion excursions (10 of 18 samples - 55.6%) from station 1aNOG005.69, at Route 722, and E. coli bacteria criterion excursions (2 of 6 samples - 33.3%) from station 1aNOG011.60, at Route 782.

North Fork Goose Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			7.16

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Sewage Discharges in Unsewered Areas	Source Unknown
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Potomac and Shenandoah River Basins

Cause Group Code **A07R-01-BAC** **Beaverdam Creek**

Location: Begins at the confluence with North Fork Beaverdam Creek, approximately 0.27 rivermile upstream of Route 746, and continues downstream until the confluence with North Fork Goose Creek.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (6 of 18 samples - 33.3%) from station 1aBEC004.76, at Route 734.

Beaverdam Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			6.33

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Sewage Discharges in Unsewered Areas
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Potomac and Shenandoah River Basins

Cause Group Code **A07R-02-BAC** **North Fork Beaverdam Creek**

Location: Begins at the confluence with Butchers Branch and continues downstream until the confluence with an unnamed tributary to North Fork Beaverdam Creek, at rivermile 3.12.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 6 samples - 50.0%) from station 1aNOB005.49, at Route 719.

North Fork Beaverdam Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			2.45

Sources:

Source Unknown

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Potomac and Shenandoah River Basins

Cause Group Code **A07R-02-BEN** **North Fork Beaverdam Creek**

Location: Begins at the headwaters of North Fork Beaverdam Creek and continues downstream until the confluence with Butchers Branch.

City / County: Loudoun Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

One of two biological monitoring events in 2001 at station 1aNOB007.97 (Route 831) resulted in a VSCI score which indicates an impaired macroinvertebrate community, as does the mean score of these two samples.

North Fork Beaverdam Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			4.58

Sources:

Source Unknown

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Potomac and Shenandoah River Basins

Cause Group Code **A07R-03-BAC** Beaverdam Creek

Location: Begins at the confluence with an unnamed tributary to Beaverdam Creek, just upstream from Route 626, and continues downstream until the confluence of with Dog Branch.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (4 of 6 samples - 66.7%) from station 1aBEC011.19, at Route 626.

Beaverdam Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			1.16

Sources:

Source Unknown

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Potomac and Shenandoah River Basins

Cause Group Code **A08R-01-BAC** **Goose Creek**

Location: Begins below the Goose Creek impoundment and continues downstream until the confluence with the Potomac River.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (5 of 18 samples - 27.8%) from station 1aGOO002.38, at Route 7.

Goose Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			4.76

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Sewage Discharges in Unsewered Areas
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Potomac and Shenandoah River Basins

Cause Group Code **A08R-01-BEN** **Goose Creek**

Location: Begins below the Goose Creek impoundment and continues downstream until the confluence with the Potomac River.

City / County: Loudoun Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

While the benthic community integrity showed an improvement from the 1998 303(d) list, this was not sufficient to warrant removing this segment from the impaired waters list. Therefore, the stream segment remains impaired for the benthic macroinvertebrate community.

Goose Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			4.76

Sources:

Channel Erosion/Incision from Upstream Hydromodifications	Crop Production (Crop Land or Dry Land)	Post-development Erosion and Sedimentation	Rangeland Grazing
Site Clearance (Land Development or Redevelopment)			

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Potomac and Shenandoah River Basins

Cause Group Code **A08R-01-PCB** **Broad Run, Difficult Run, Goose Creek, Pimmit Run**

Location: Includes the following tributaries between the Virginia/Maryland state line near the Route 340 bridge (Loudoun County) to the I-395 bridge in Arlington County (above the Woodrow Wilson Bridge): Goose Creek up to the Dulles Greenway Road Bridge, Broad Run up to the Route 625 bridge, Difficult Run up to the Route 7 bridge, and Pimmit Run up to the Route 309 bridge.

City / County: Arlington Co. Fairfax Co. Loudoun Co.

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, PCB fish consumption advisory. The advisory, dated 12/13/04, limits American eel consumption to no more than two meals per month.

Broad Run, Difficult Run, Goose Creek, Pimmit Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
PCB in Fish Tissue - Total Impaired Size by Water Type:		39.63	18.92

Sources:

Source Unknown

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Potomac and Shenandoah River Basins

Cause Group Code **A08R-02-BAC** **Little River**

Location: Begins the confluence with Bartons Creek and continues downstream until the confluence with Goose Creek.

City / County: Fauquier Co. Loudoun Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 4A

E. coli bacteria criterion excursions (7 of 10 samples - 70.0%) from station 1aLIV006.92, at Route 629. 2006 Assessment:
Fecal coliform bacteria criterion excursions (2 of 11 samples - 18.2%) from station 1aLIV001.70, at Route 15, fecal coliform bacteria excursions (7 of 19 samples - 36.8%) from station 1aLIV004.78, at Route 50.

Little River	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			6.30
Little River	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			6.11

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Sewage Discharges in Unsewered Areas	Source Unknown
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Potomac and Shenandoah River Basins

Cause Group Code **A08R-02-BEN** **Little River**

Location: Begins at the confluence with Hungry Run, approximately 1.5 rivermiles upstream from Route 50 near Aldie, and continues downstream until the confluence with Goose Creek.

City / County: Loudoun Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

While the benthic community integrity showed an improvement from the 1998 303(d) list, this was not sufficient to warrant removing this segment from the impaired waters list. Therefore, the stream segment remains impaired for the benthic macroinvertebrate community.

Little River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			6.11

Sources:

Channel Erosion/Incision from Upstream Hydromodifications	Post-development Erosion and Sedimentation	Rangeland Grazing
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A08R-03-BAC** **Sycolin Creek**

Location: Begins at the headwaters of Sycolin Creek and continues downstream until the confluence with Goose Creek.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 4A

2006 Assessment: Fecal coliform bacteria criterion excursions (3 of 19 samples - 15.8%) from station 1aSYC002.03, at Route 653, fecal coliform bacteria criterion excursions (5 of 7 samples - 71.4%) from station 1aSYC004.93, at Route 621, and fecal coliform bacteria criterion excursions (3 of 7 samples - 42.8%) from station 1aSYC007.43, at Route 797.

Sycolin Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			9.95

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Sewage Discharges in Unsewered Areas
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A08R-04-BAC** **South Fork Sycolin Creek**

Location: Begins at the headwaters of South Fork Sycolin Creek and continues downstream until the confluence with Sycolin Creek.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (2 of 2 samples - 100%) from station 1aSFS000.28, at Route 15.

South Fork Sycolin Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			3.31

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Sewage Discharges in Unsewered Areas
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A08R-05-BAC** Tuscarora Creek

Location: Begins at the confluence with Town Branch and continues downstream until the confluence with Goose Creek.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 8 samples - 37.5%) from station 1aTUS000.04, at the golf cart bridge.

Tuscarora Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			3.55

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A08R-06-BAC** **Goose Creek**

Location: Begins at the confluence with the Little River and extends downstream until the backwaters of the Goose Creek Reservoir, at approximately rivermile 10.2.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (5 of 30 samples - 16.7%) from station 1aGOO011.23, at Route 621.

Goose Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			2.52

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A08R-07-BAC** **Howzers Branch**

Location: Begins at the headwaters of Howzers Branch and continues downstream until the confluence with Little River.

City / County: Loudoun Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 2 samples - 100%) from station 1aHOW003.68, at Route 50.

Howzers Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			4.56

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A09R-01-BEN** **Broad Run**

Location: Begins at the confluence with Horsepen Run and continues downstream until the confluence with the Potomac River.

City / County: Loudoun Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2004 and two biological monitoring events in 2005 at station 1aBRB002.15 (Route 7) both resulted in a VSCI score which indicates an impaired macroinvertebrate community and two biological monitoring events in 2005 at station 1aBRB006.97 (upstream from Waxpool Road) both resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Broad Run	Estuary	Reservoir	River
Aquatic Life	(Sq. Miles)	(Acres)	(Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			8.22

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A09R-02-BEN** **Broad Run**

Location: Begins at the confluence with Lenah Run and continues downstream until the confluence with South Fork Broad Run.

City / County: Loudoun Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2005 at station 1aBRB015.43 (upstream from Route 621) both resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Broad Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			1.33

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A10R-01-BAC** **Sugarland Run**

Location: Begins at the confluence with Folly Lick Branch, at approximately rivermile 5.75, and continues downstream until the confluence with the Potomac River.

City / County: Fairfax Co. Loudoun Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (4 of 18 samples - 22.2%) from station 1aSUG004.42, at Route 7.

Sugarland Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			5.72

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A11R-01-BAC** **Difficult Run**

Location: Begins at the confluence with Captain Hickory Run, approximately 0.6 rivermile upstream from Route 683, and continues downstream until the confluence with the Potomac River.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (4 of 19 samples - 21.0%) from station 1aDIF000.86, at Route 193. Two biological monitoring events in 2005 and one of two biological monitoring events in 2006 at station 1aDIF000.86 (Route 193) resulted in a VSCI score which indicates an impaired macroinvertebrate community, as does the mean score of these two samples. Excursions above of the water quality criterion based tissue screening value (TV) of 12 parts per billion (ppb) for heptachlor epoxide in fish tissue were recorded in one specie of fish samples (2 total samples) in American eel (2001 and 2004), collected at monitoring station 1aDIF000.86.

Difficult Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			2.94

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A11R-01-BEN** **Difficult Run**

Location: Begins at the confluence with Captain Hickory Run, approximately 0.6 rivermile upstream from Route 683, and continues downstream until the confluence with the Potomac River.

City / County: Fairfax Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2005 and one of two biological monitoring events in 2006 at station 1aDIF000.86 (Route 193) resulted in a VSCI score which indicates an impaired macroinvertebrate community, as does the mean score of these two samples.

Difficult Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			2.94

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A11R-01-HEPOXID** **Difficult Run**

Location: Begins at the confluence with Captain Hickory Run, approximately 0.6 rivermile upstream from Route 683, and continues downstream until the confluence with the Potomac River.

City / County: Fairfax Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: Heptachlor epoxide / 5A

Excursions above of the water quality criterion based tissue screening value (TV) of 12 parts per billion (ppb) for heptachlor epoxide in fish tissue were recorded in one specie of fish samples (2 total samples) in American eel (2001 and 2004), collected at monitoring station 1aDIF000.86.

Difficult Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
Heptachlor epoxide - Total Impaired Size by Water Type:			2.94

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A11R-02-BEN** **Captain Hickory Run**

Location: Begins at the headwaters of Captain Hickory Run and continues downstream until the confluence with Difficult Run.

City / County: Fairfax Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2001 at station 1aCAH001.82 (upstream from Route 681) both resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Captain Hickory Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			3.00

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A11R-03-BAC** **Difficult Run**

Location: Begins at confluence with Rocky Branch, approximately 0.25 rivermile upstream of Route 672, and continues downstream until the confluence with Piney Branch.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (4 of 19 samples - 21.0%) from station 1aDIF000.86, at Route 193.

Difficult Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			3.22

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A11R-03-BEN** **Difficult Run**

Location: Begins at confluence with Rocky Branch, approximately 0.25 rivermile upstream of Route 672, and continues downstream until the confluence with Wolftrap Creek.

City / County: Fairfax Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2006 at station 1aDIF005.06 (Route 675) both resulted in a VSCI score which indicates an impaired macroinvertebrate community, two biological monitoring events in 2006 at station 1aDIF010.48 (Route 681) both resulted in a VSCI score which indicates an impaired macroinvertebrate community, and two biological monitoring events in 2002 at station 1aDIF010.57 both resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Difficult Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			5.85

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A11R-04-BAC** **Snakeden Branch**

Location: Begins at the confluence with an unnamed tributary to Snakeden Branch, approximately 0.4 rivermile downstream from the Twin Branches Road bridge, and continues downstream until the confluence with Difficult Run.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (5 of 14 samples - 35.7%) from station 1aSNA000.21, at Route 677.

Snakeden Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			0.79

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A11R-05-BAC** **Little Difficult Run**

Location: Begins at the confluence with South Fork Little Difficult Run and continues downstream until the confluence with Difficult Run.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (4 of 13 samples - 30.8%) from station 1aLID000.64, at Route 669 (Stuart Mill Road).

Little Difficult Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			1.61

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A11R-06-BAC** **Wolftrap Creek**

Location: Begins at the confluence with Old Courthouse Spring Branch and continues downstream until the confluence with Difficult Run.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (4 of 14 samples - 28.6%) from station 1aWOT000.92, at Route 702.

Wolftrap Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			2.57

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A12E-01-PCB** Potomac River Embayments (FOU downstream until POM)

Location: Includes the tidal portions of the following tributaries and embayments from the I-395 bridge (above the Woodrow Wilson Bridge) to the Potomac River Bridge at Route 301: Fourmile Run, Hunting Creek, Little Hunting Creek, Pohick Creek, Accotink Creek, Occoquan River, Neabsco Creek, Powells Creek, Quantico Creek, Chopawamsic Creek, Aquia Creek, and Potomac Creek.

City / County: Alexandria City Arlington Co. Fairfax Co. King George Co. Prince William Co.
Stafford Co.

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, PCB fish consumption advisory. The advisory, dated 4/19/99 and modified 12/13/04, limits consumption of American eel, bullhead catfish, channel catfish less than eighteen inches long, largemouth bass, anadromous (coastal) striped bass, sunfish species, smallmouth bass, white catfish, white perch, gizzard shad, and yellow perch consumption to no more than two meals per month. The advisory also bans the consumption of carp and channel catfish greater than eighteen inches long.

Potomac River Embayments (FOU downstream until POM)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
PCB in Fish Tissue - Total Impaired Size by Water Type:	23.765		

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A12R-01-BAC** **Fourmile Run**

Location: Begins at the headwaters of Fourmile Run and continues downstream until the confluence with the Potomac River.

City / County: Alexandria City Arlington Co. Fairfax Co. Falls Church City

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A Escherichia coli / 5A

E. coli bacteria criterion excursions; 7 of 17 samples (41.2%) from station 1aFOU000.19, at George Washington Parkway, 7 of 17 samples (41.2%) from station 1aFOU001.92, at West Glebe Road, 2 of 4 samples (50.0%) from station 1aFOU004.22, at Route 244, and 5 of 6 (83.3%) from station 1aFOU005.60, at Carlyn Springs Road.

Fourmile Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:	0.052		7.86

Sources:

Illicit Connections/Hook-ups to Storm Sewers Source Unknown Wastes from Pets Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A12R-02-BAC** **Pimmit Run**

Location: Begins at the headwaters of Pimmit Run, approximately 0.12 rivermile upstream from Route 7, and continues downstream until the confluence with the Potomac River.

City / County: Arlington Co. Fairfax Co.

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

2006 Assessment: Fecal coliform bacteria criterion excursions (4 of 16 samples - 25.0%) from station 1aPIM000.15, at Route 120. 2006 Assessment: Fecal coliform bacteria excursions (1 of 7 samples - 14.3%) from station 1aPIM004.16, at Route 309. The segment shall remain categorized as impaired.

Pimmit Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			7.37

Sources:
Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A12R-03-CDANE** **Pimmit Run**

Location: Begins at the confluence with Little Pimmit Run, approximately 0.1 rivermile downstream from Route 695, and continues downstream until the confluence with the Potomac River.

City / County: Arlington Co. Fairfax Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: Chlordane / 5A

Excursions above the water quality criterion based tissue value (TV) of 310 ppb for chlordane in fish tissue were recorded in tissue from one specie (American eel) of fish sampled in 2001 and 2004 at monitoring station 1aPIM000.15.

Pimmit Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
Chlordane - Total Impaired Size by Water Type:			1.62

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A12R-03-HEPOXID** **Pimmit Run**

Location: Begins at the confluence with Little Pimmit Run, approximately 0.1 rivermile downstream from Route 695, and continues downstream until the confluence with the Potomac River.

City / County: Arlington Co. Fairfax Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: Heptachlor epoxide / 5A

Excursions above the water quality criterion based tissue value (TV) of 12 parts per billion (ppb) for heptachlor epoxide in fish tissue were recorded in tissue from one specie (American eel) of fish sampled in 2001 and 2004 at monitoring station 1aPIM000.15.

Pimmit Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
Heptachlor epoxide - Total Impaired Size by Water Type:			1.62

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A13R-01-PCB** **Indian Run**

Location: Includes the entire portion of Indian Run, from the headwaters until the confluence with Backlick Run.

City / County: Fairfax Co.

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A

The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, PCB fish consumption advisory. The advisory, dated 7/27/04, limits consumption of creek chub to no more than two meals per month.

Indian Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
PCB in Fish Tissue - Total Impaired Size by Water Type:			2.94

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A13R-02-BAC** **Holmes Run**

Location: Begins at the mouth of Lake Barcroft and continues downstream until the confluence with Backlick Run.

City / County: Alexandria City Fairfax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) from station 1aHOR001.04, at Pickett Street.

Holmes Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			3.58

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A13R-03-BAC** **Cameron Run/Hunting Creek**

Location: Begins at the confluence with Backlick Run and continues downstream until the mouth of the embayment, at Jones Point and Belle View.

City / County: Alexandria City Fairfax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions; 11 of 27 samples (40.7%) from station 1aHUT000.01, at George Washington Parkway, 3 of 11 samples (27.3%) from station 1aHUT001.72, at Route 611/241 (Telegraph Road), and 5 of 18 samples (27.8%) from station 1aCAM002.92, at Eisenhower Avenue.

Cameron Run/Hunting Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:	0.526		2.08

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A13R-03-BEN** **Holmes Run**

Location: Begins at the headwaters of Holmes Run and continues downstream until the start of Lake Barcroft.

City / County: Fairfax Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2004 at station 1aHOR005.48 (Route 613) both resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Holmes Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			5.78

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A13R-04-BEN** **Trippls Run**

Location: Begins at the headwaters of Trippls Run and continues downstream until the start of Lake Barcroft.

City / County: Fairfax Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2004 at station 1aTRI001.88 (upstream from Route 613) both resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Trippls Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			2.24

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A14E-01-BAC** **Little Hunting Creek**

Location: Includes all tidal waters of Little Hunting Creek, extending from approximately rivermile 1.7 downstream until the confluence with the Potomac River.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (4 of 17 samples - 23.5%) from station 1aLIF000.19, at the George Washington Parkway.

Little Hunting Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			0.246

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A14E-02-BAC** **Dogue Creek**

Location: Includes all tidal waters of Dogue Creek, extending from approximately rivermile 2.1 until the confluence with the Potomac River.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 20 samples - 15.0%) from station 1aDOU000.60, across from Mount Vernon Yacht Club.

Dogue Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			
			0.735

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A15E-01-BAC** **Pohick Creek**

Location: Extends from rivermile 1.31 in Gunston Cove until the confluence with the Potomac River.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) from station 1aPOH000.21.

Pohick Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:		1.504	

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A15R-01-BAC** **Accotink Creek**

Location: Begins at the confluence with Calamo Branch and continues downstream until the tidal waters of Accotink Bay.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 14 samples - 14.3%) from station 1aACO004.84, at Route 611 (Telegraph Road).

Accotink Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			7.34

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A15R-01-BEN** **Accotink Creek**

Location: Begins at the confluence with Calamo Branch and continues downstream until the tidal waters of Accotink Bay.

City / County: Fairfax Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2006, at station 1aACO002.50, each resulted in a VSCI score which indicates an impaired macroinvertebrate community. Two biological monitoring events in 2006, at station 1aACO006.10, each resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Accotink Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			7.34

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A15R-02-BAC** **Accotink Creek**

Location: Begins at the confluence with Crook Branch, upstream from Route 846, and continues downstream until the start of Lake Accotink.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions; 10 of 36 samples (27.8%) from station 1aACO014.57, at Route 620, and 2 of 4 samples (50%) from station 1aACO018.48, at Route 846 (Woodburn Road).

Accotink Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			4.77

Sources:

Illicit Connections/Hook-ups to Storm Sewers	Impervious Surface/Parking Lot Runoff	Sewage Discharges in Unsewered Areas	Wastes from Pets
Waterfowl			

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A15R-03-BAC** **Accotink Creek**

Location: Begins at the confluence with Daniels Run, in the City of Fairfax, and continues downstream until the confluence with Bear Branch.

City / County: Fairfax City Fairfax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

2006 Assessment: E. coli bacteria criterion excursions (13 of 13 samples - 100%) were recorded at USGS monitoring station 01653900.

Accotink Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			1.20

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A15R-04-BEN** **Accotink Creek**

Location: Begins at the confluence with an unnamed tributary to Accotink Creek, located in the upstream corridor of Ranger Park, and continues downstream until the confluence with Daniels Run.

City / County: Fairfax City

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

EPA biological monitoring events in 2005 and 2006 each resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Accotink Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			0.85

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A15R-05-BEN** **Long Branch**

Location: Begins at the confluence with an unnamed tributary to Long Branch, at the Route 651 (Guinea Road) bridge, and continues downstream until the confluence with Accotink Creek, at rivermile 14.32 just below Braddock Road.

City / County: Fairfax Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2006 at station 1aLOE001.99 (downstream from Route 651/Guinea Road) both resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Long Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			2.24

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A15R-06-BAC** **Long Branch**

Location: Begins at the headwaters of Long Branch and continues downstream until the confluence with Accotink Creek, at rivermile 4.41.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 14 samples - 21.4%) from station 1aLOA000.17, at Route 611.

Long Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			4.76

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A16R-01-BAC** **Pohick Creek**

Location: Begins at the confluence with South Run, approximately 0.25 rivermile upstream from I-95, and continues downstream until the end of the free-flowing portion of Pohick Creek.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (5 of 16 samples - 31.2%) from station 1aPOH005.36, at Route 1. Excursions above the water quality criterion based tissue value (TV) of 15 ppb for benzo(k)fluoranthene in fish tissue (bullhead catfish, white perch, and sunfish) and of 54 parts per billion (ppb) for polychlorinated biphenyls (PCBs) in fish tissue (bullhead catfish and white perch) in 1996, at station 1aPOH004.79.

Pohick Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			3.21

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A16R-02-BAC** **Pohick Creek**

Location: Begins at the confluence with Sideburn Branch and continues downstream until the confluence with an unnamed tributary to Pohick Creek, at rivermile 14.18.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (4 of 6 samples - 66.7%) from station 1aPOH015.09, at Route 645.

Pohick Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			1.52

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A17R-01-BAC** Cedar Run

Location: Begins at the confluence with Mill Run, approximately 1.2 rivermiles downstream from Route 672, and continues downstream until the confluence with the Occoquan River/Lake Jackson.

City / County: Fauquier Co. Prince William Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (8 of 24 samples - 33.3%) from station 1aCER006.00, at Route 646, E. coli bacteria criterion excursions (9 of 20 samples - 45.0%) from station 1aCER009.52, at Route 611, E. coli bacteria criterion excursions (16 of 42 samples - 38.1%) from station 1aCER016.46, at Route 806, and E. coli bacteria criterion excursions (9 of 20 samples - 45.0%) from station 1aCER025.25, at Route 602.

Cedar Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			28.34

Sources:

Grazing in Riparian or Shoreline Zones	Manure Runoff	Waterfowl	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A17R-02-BAC** **Licking Run**

Location: Begins at Route 602, below the mouth of Germantown Lake, and continues downstream until the confluence with Cedar Run.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (9 of 24 samples - 37.5%) from station 1aLIL001.43, at Route 616.

Licking Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			6.58

Sources:

Grazing in Riparian or Shoreline Zones	Manure Runoff	Waterfowl	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A17R-03-BAC** **Licking Run**

Location: Begins at the headwaters of Licking Run and continues downstream until the start of Germantown Lake.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (5 of 18 samples - 27.8%) from station 1aLIL008.23, at Route 663.

Licking Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			6.74

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A17R-04-BAC** Turkey Run

Location: Begins at the confluence with an unnamed tributary to Turkey Run, approximately 0.25 rivermile upstream from the Route 602 crossing, and continues downstream until the confluence with Cedar Run, at rivermile 20.89.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (4 of 9 samples - 44.4%) from station 1aTUK003.37, at Route 602.

Turkey Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			3.45

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A17R-05-BAC** Cedar Run

Location: Begins at the outlet of the Warrenton Reservoir and continues downstream until the boundary of the PWS designation area, approximately 0.1 rivermile downstream from the Route 678 crossing.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) from station 1aCER032.15, at Route 672.

Cedar Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			1.81

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A17R-06-BAC** **Walnut Branch**

Location: Begins at the confluence with an unnamed tributary, just upstream from the railroad crossing, and continues downstream until the confluence with Cedar Run, at rivermile 15.16.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 9 samples - 22.2%) from station 1aWAL000.79, at Route 767.

Walnut Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			1.67

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A18R-01-BAC** **Elk Run**

Location: Begins at the confluence with Furrs Run and continues downstream until the confluence with Town Run.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 4 samples - 50.0%) from station 1aELK000.10, at Route 806 (Elk Run Road).

Elk Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			2.17

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A18R-02-BAC** **Town Run**

Location: Begins at the confluence with Negro Run and continues downstream until the confluence with Elk Run.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 5 samples - 40.0%) from station 1aTON003.77, at Route 611.

Town Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			2.36

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A18R-02-BEN** **Lucky Run**

Location: Begins at the headwaters of Lucky Run and continues downstream until the confluence with Cedar Run.

City / County: Prince William Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2001 at station 1aLUC000.95 (off Route 611) both resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Lucky Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			3.33

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A19R-01-BAC** **Broad Run**

Location: Begins at the confluence with Rocky Branch and continues downstream until the confluence with Cannon Branch.

City / County: Manassas City Prince William Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) from station 1aBRU011.24, at Sudley Manor Drive.

Broad Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			7.25

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A19R-02-BAC** **Broad Run**

Location: Begins at the confluence with an unnamed tributary to Broad Run, at approximately rivermile 21.3, and continues downstream until the start, western end, of Lake Manassas.

City / County: Fauquier Co. Prince William Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (3 of 15 samples - 20.0%) from station 1aBRU020.12, at Route 29/15.

Broad Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			1.50

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A19R-03-BAC** **Kettle Run**

Location: Begins at the confluence with an unnamed tributary to Kettle Run, approximately 0.08 rivermile upstream from Route 708, and continues downstream until the confluence with Broad Run.

City / County: Prince William Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (3 of 14 samples - 21.4%) from station 1aKET002.06, at Route 611.

Kettle Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			7.60

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A19R-04-BEN** **South Run**

Location: Begins downstream of Lake Brittle on South Run and continues downstream until the confluence with Lake Manassas (Broad Run).

City / County: Fauquier Co. Prince William Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

One of two biological monitoring events in 2004 and two biological monitoring events in 2005 at station 1aSOT001.65 (Route 652) resulted in a VSCI score which indicates an impaired macroinvertebrate community, as does the mean score of these four samples.

South Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			2.31

Sources:

Agriculture	Lake Fertilization	Municipal Point Source Discharges	Urban Runoff/Storm Sewers
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A19R-05-BAC** **Broad Run**

Location: Begins at the confluence with Mill Run and continues downstream until the confluence with Catletts Branch.

City / County: Fauquier Co. Prince William Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 4A Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) from station 1aBRU026.40, at Route 628, and E. coli bacteria criterion excursions (5 of 11 samples - 45.4%) from station 1aBRU029.80, at Route 55.

Broad Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			2.17

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Source Unknown	Wastes from Pets	Waterfowl
Wildlife Other than Waterfowl			

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A19R-06-BAC** **Broad Run**

Location: Begins at the confluence with Kettle Run and continues downstream until the confluence with Cedar Run, forming the Occoquan River/Lake Jackson.

City / County: Prince William Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (5 of 24 samples - 20.8%) from station 1aBRU001.59, at Route 692.

Broad Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			2.22

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A19R-07-BAC** **Trapp Branch**

Location: Begins at the confluence with an unnamed tributary to Trapp Branch, approximately 0.08 rivermile downstream from the Route 696 crossing, and continues downstream until the confluence with Broad Run.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (8 of 12 samples - 66.7%) from station 1aTRA001.02, at Route 674.

Trapp Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			1.46

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A19R-08-BAC** **Kettle Run**

Location: Begins at the confluence with an unnamed tributary to Kettle Run, just upstream from Route 602, and continues downstream until the confluence with another unnamed tributary to Kettle Run, at approximately rivermile 10.5.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (4 of 12 samples - 33.3%) from station 1aKET012.03, at Route 761.

Kettle Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			3.47

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A20R-01-BAC** **Occoquan River**

Location: Begins downstream from the Lake Jackson impoundment and continues downstream until the start of the Occoquan Reservoir.

City / County: Prince William Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Fecal Coliform / 4A

2006 Assessment: E. coli bacteria criterion excursions (4 of 21 samples - 19.0%) from station 1aOCC021.35, at Route 3000, and fecal coliform bacteria criterion excursions (4 of 8 samples - 50.0%) from station 1aOCC024.74, at Route 234.

Occoquan River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			3.37

Occoquan River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			1.61

Sources:

Grazing in Riparian or
Shoreline Zones
Sewage Discharges in
Unsewered Areas

Impacts from Land
Application of Wastes
Wastes from Pets

Livestock (Grazing or
Feeding Operations)
Waterfowl

Runoff from
Forest/Grassland/Parkland
Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A20R-02-BAC** **Purcell Branch**

Location: Begins at the headwaters of Purcell Branch, near Woodbine School, and continues downstream until the confluence with the Occoquan Reservoir, at rivermile 23.23.

City / County: Prince William Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (5 of 11 samples - 45.4%) from station 1aPUR001.20, at Route 643.

Purcell Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			3.13

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A21R-01-PCB** **Bull Run**

Location: Includes Bull Run near Manassas Park from the I-66 bridge downstream approximately fourteen miles to the Route 612 (Yates Ford Road) bridge.

City / County: Fairfax Co. Manassas Park City Prince William Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: PCB in Fish Tissue / 5A

The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, PCB fish consumption advisory. The advisory, dated 12/13/04 and modified 07/27/05, limits consumption of carp and channel catfish to no more than two meals per month.

Bull Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
PCB in Fish Tissue - Total Impaired Size by Water Type:		62.78	11.31

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A21R-02-BAC** **Bull Run**

Location: Begins at the confluence with Chestnut Lick, approximately 0.7 rivermile upstream from Route 705, and continues downstream until the confluence with an unnamed tributary to Bull Run, at rivermile 22.34.

City / County: Loudoun Co. Prince William Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 16 samples - 18.8%) from station 1aBUL025.94, at Route 705.

Bull Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			4.36

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A21R-03-BAC** **Catharpin Creek**

Location: Begins at the headwaters of Catharpin Creek and continues downstream until the confluence with Little Bull Run.

City / County: Prince William Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 6 samples - 50.0%) from station 1aCAA003.46, at Route 676.

Catharpin Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			6.26

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A22R-01-BAC** **Cub Run**

Location: Begins at the confluence with Ellick Run and continues downstream until the confluence with Bull Run.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (4 of 19 samples - 21.0%) from station 1aCUB002.61, at Route 658.

Cub Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			6.73

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A22R-01-BEN** **Flatlick Branch**

Location: Begins at the confluence with Frog Branch and continues downstream until the confluence with Cub Run.

City / County: Fairfax Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2001 at station 1aFLL000.62 (downstream of Route 620) both resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Flatlick Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			3.02

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A22R-02-BAC** **Elklick Run**

Location: Begins at the confluence with an unnamed tributary to Elklick Run, approximately 0.65 rivermile downstream from the Route 620 crossing, and continues downstream until the confluence with Cub Run.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 5 samples - 60.0%) for station 1aELC001.39, at Route 609.

Elklick Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			2.15

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A23R-01-BEN** **Bull Run**

Location: Begins at the confluence with Cub Run, at the start of watershed A23R, and continues downstream until the confluence with Popes Head Creek.

City / County: Fairfax Co. Manassas Park City Prince William Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

Two biological monitoring events in 2005 at station 1aBUL009.61 (downstream of Route 28) both resulted in a VSCI score which indicates an impaired macroinvertebrate community, two biological monitoring events in 2004 and one of one biological monitoring event in 2005 at station 1aBUL010.28 (Route 28) all resulted in a VSCI score which indicates an impaired macroinvertebrate community, and two biological monitoring events in 2005 at station 1aBUL011.12 (upstream of Route 616) both resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Bull Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			4.79

Sources:

Post-development Erosion Streambank Urban Runoff/Storm Sewers
and Sedimentation Modifications/destabilization

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A23R-02-BAC** **Popes Head Creek**

Location: Begins at the confluence with Piney Branch, approximately 0.25 rivermile downstream from Route 660, and continues downstream until the confluence with Bull Run.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (5 of 26 samples - 19.2%) from station 1aPOE002.00, at Route 645.

Popes Head Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			4.93

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A23R-02-BEN** **Popes Head Creek**

Location: Begins at the confluence with Piney Branch, approximately 0.25 rivermile downstream from Route 660, and continues downstream until the confluence with Bull Run.

City / County: Fairfax Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

Two biological monitoring events in 2004 and two biological monitoring events in 2005 at station 1aPOE002.00 (Route 645) resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Popes Head Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			4.93

Sources:

Post-development Erosion and Sedimentation	Streambank Modifications/destabilization	Urban Runoff/Storm Sewers
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A23R-03-BAC** **Little Rocky Run**

Location: Begins at the confluence with Willow Springs and continues downstream until the confluence with Bull Run.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 11 samples - 27.3%) from station 1aLIP001.00, at Route 658 (Compton Road).

Little Rocky Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			4.78

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A24L-01-DO** **Occoquan Reservoir**

Location: Includes the entire Occoquan Reservoir.

City / County: Fairfax Co. Prince William Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

Excursions below the instantaneous dissolved oxygen criterion (1,185 of 6,944 samples - 17.1%) from stations RE02, RE15, RE30, and RE35.

Occoquan Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:		1,327.84	

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A24R-01-BAC** **Wolf Run**

Location: Begins at the confluence with Maple Branch and continues downstream until the end of the free-flowing waters at the inundated waters of the Occoquan Reservoir.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (5 of 17 samples - 29.4%) from station 1aWOL001.26, at Route 643.

Wolf Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			2.11

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A24R-02-BAC** **Sandy Run**

Location: Begins at the headwaters of Sandy Run and continues downstream until the end of the free-flowing waters at the inundated waters of the Occoquan Reservoir.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 5 samples - 40.0%) from station 1aSAD001.76, at Cathedral Forest Drive.

Sandy Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			5.37

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A25E-01-PH** **Occoquan River**

Location: Extends 0.5 mile around the around monitoring station 1aOCC002.47.

City / County: Fairfax Co. Prince William Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: pH / 5A

For the 2006 water quality assessment, sufficient excursions above the criterion range for pH (5 of 16 samples - 31.2%) were recorded at DEQ's ambient water quality monitoring station (1aOCC002.47) at Buoy #6, midway into Occoquan Bay, to assess this stream segment as not supporting of the aquatic life use goal. While data from the 2008 assessment window indicate improvement for the pH impairment at monitoring station 1aOCC002.47 (1 of 45 samples - 2.2%), continuous monitoring data collected at that station reveal that pH issues may still exist. However, methods for assessing continuous monitoring data have not been established. The pH impairment shall remain.

Occoquan River	Estuary	Reservoir	River
Aquatic Life	(Sq. Miles)	(Acres)	(Miles)
pH - Total Impaired Size by Water Type:			
0.633			

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A25E-02-BAC** **Neabsco Creek**

Location: Includes the tidal waters of Neabsco Bay downstream until the confluence with Occoquan Bay.

City / County: Prince William Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 18 samples - 11.1%) from station 1aNEA000.40 and (4 of 14 - 28.6%) from station 1aNEA000.57.

Neabsco Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			
	0.543		

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A25E-03-BAC** **Occoquan River**

Location: Extends from 0.5 rivermile upstream of monitoring station 1aOCC006.99 until 0.5 rivermile downstream of monitoring station 1aOCC006.64.

City / County: Fairfax Co. Prince William Co.

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

2006 Assessment: Fecal coliform bacteria criterion excursions (2 of 13 samples - 15.4%) from station 1aOCC006.71, at Route 123.

Occoquan River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			
			0.084

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A25E-04-EBEN** **Occoquan River**

Location: Extends 0.5 mile around Coastal 2000 monitoring station 1aOCC002.62.

City / County: Fairfax Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Estuarine Bioassessments / 5A

Coastal 2000 weight of evidence analysis, utilizing bulk chemical data, toxicity test data, and an evaluation of benthic community conditions, resulted in an impaired determination for the aquatic life use. Results from the estuarine bioassessment, from station 1aOCC002.62, were the primary factor for this determination.

Occoquan River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Estuarine Bioassessments - Total Impaired Size by Water Type:			
			0.286

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A25R-01-BAC** **Neabsco Creek**

Location: Begins at the confluence with an unnamed tributary to Neabsco Creek, near Dale City and approximately 0.4 rivermile downstream from Route 784 (on the tributary) and continues downstream until the start of the tidal waters of Neabsco Bay.

City / County: Prince William Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) from station 1aNEA002.89, at the Route 1 (Richmond Highway), and (6 of 12 samples - 50.0%) from station 1aNEA009.35, at Route 610 (Delamey Road).

Neabsco Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			8.42

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A25R-02-BAC** Mills Branch

Location: Begins at the headwaters of Mills Branch and continues downstream until the confluence with the Occoquan River.

City / County: Fairfax Co.

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

2006 Assessment: Although the data obtained during the 2006 assessment window shows exceedances of the instantaneous fecal coliform bacteria criterion (1 of 8 samples - 14.3%) is categorized as having insufficient information, very little data has been collected from the DEQ's ambient water quality monitoring station (1aWLB000.06) since the previous assessment window. The segment shall remain categorized as impaired.

Mills Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			1.71

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A26E-02-BAC** **Chopawamsic Creek**

Location: Extends from approximately 0.5 rivermile upstream, at the upstream boundary of tidal waters, until 0.5 rivermile downstream of monitoring station 1aCHO003.65.

City / County: Prince William Co. Stafford Co.

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

2004 Assessment: Fecal coliform bacteria criterion excursions (4 of 36 samples - 11.1%) from station 1aCHO003.65, at Route 1.

Chopawamsic Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			0.114

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A26E-03-EBEN** **Quantico Creek**

Location: Extends to a 0.5-mile radius around station 1aQUA001.09.

City / County: Prince William Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Estuarine Bioassessments / 5A

Based on the Coastal 2000 weight of evidence analysis, utilizing bulk chemical data, toxicity test data, and an evaluation of benthic community conditions. Conclusions noted that organic enrichment, as well as chemical contamination, may be responsible for the sediment bioassays for estuarine and marine waters impairment. The acute bioassay revealed slight, yet significant, toxicity. Conclusions noted that organic enrichment, as well as chemical contamination, may be responsible for the estuarine bioassessments impairment. The survey revealed low diversity of benthic faunal taxa.

Quantico Creek	Estuary	Reservoir	River
Aquatic Life	(Sq. Miles)	(Acres)	(Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:		0.426	

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A26E-03-EBTOX** **Quantico Creek**

Location: Extends to a 0.5-mile radius around station 1aQUA001.09.

City / County: Prince William Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Sediment Bioassays for Estuarine and Marine Water / 5A

Based on the Coastal 2000 weight of evidence analysis, utilizing bulk chemical data, toxicity test data, and an evaluation of benthic community conditions. Conclusions noted that organic enrichment, as well as chemical contamination, may be responsible for the sediment bioassays for estuarine and marine waters impairment. The acute bioassay revealed slight, yet significant, toxicity. Conclusions noted that organic enrichment, as well as chemical contamination, may be responsible for the estuarine bioassessments impairment. The survey revealed low diversity of benthic faunal taxa.

Quantico Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Sediment Bioassays for Estuarine and Marine Water - Total Impaired Size by Water Type:	0.426		

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A26R-01-PH** **Chopawamsic Creek**

Location: Begins at the confluence with an unnamed tributary to Chopawamsic Creek, approximately 0.3 rivermile upstream from I-95, and continues downstream until the end of the free flowing waters of Chopawamsic Creek.

City / County: Prince William Co. Stafford Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: pH / 5A

Although the data obtained during the 2006 assessment window (1 of 24 samples - 4.2%) and the 2008 assessment window (1 of 12 samples - 8.3%) show the pH parameter is categorized as fully supporting, no additional data has been collected from the USGS ambient water quality monitoring station 01660110 since the 2004 listing. The segment shall remain categorized as impaired.

Chopawamsic Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			0.81

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A26R-02-BAC** **Powells Creek**

Location: Begins approximately 0.2 rivermiles below Lake Montclair and continues downstream until the end of the free-flowing waters of Powells Creek.

City / County: Prince William Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 13 samples - 15.4%) from station 1aPOW006.11, at Northgate Drive. Fish tissue/sediment sampling was conducted at this station in 1996. This segment remains on the impaired waters list for the fish consumption use because of the 1996 fish tissue data. Exceedances of the water quality standard criterion based tissue value (TV) of 54 parts per billion (ppb) for polychlorinated biphenyls (PCBs) and 15 ppb for benzo(k)fluoranthene in fish tissue were recorded during the 1996 sampling event. Excursions above the TV for PCB's were recorded in three fish species (largemouth bass, bullhead catfish and sunfish); excursions above the TV for benzo(k)fluoranthene were recorded in two species (largemouth bass and sunfish).

Powells Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			4.62

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A26R-03-BAC** **Quantico Creek**

Location: Begins at the confluence with South Fork Quantico Creek, approximately 0.75 rivermile upstream from I-95, and continues downstream until the start of the tidal waters of Quantico Bay.

City / County: Prince William Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (5 of 15 samples - 33.3%) from station 1aQUA004.46, at Route 1 Business. Fish tissue/sediment sampling was conducted at this station in 1996, which is the reason the segment remains on the impaired waters list. Exceedances of the water quality criterion based tissue value (TV) of 54 parts per billion (ppb) for polychlorinated biphenyls (PCBs) in fish tissue was recorded at DEQ's ambient water quality and fish tissue/sediment monitoring station (1AQUA004.46) at Route 1 Business. The TV for PCB's was exceeded in two fish species in 1996 (largemouth bass and bullhead catfish). Although there were no exceedances for PCBs in five species of fish tissue sampled in 2003 (American eel, redbreast sunfish, white sucker, green sunfish, and madtom), these species differed from the ones used to originally impair the segment. The segment shall remain impaired for the fish consumption use and will be prioritized for follow up monitoring.

Quantico Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			1.45

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A26R-04-BAC** **North Branch Chopawamsic Creek**

Location: Begins at the headwaters of North Branch Chopawamsic Creek and continues downstream until the confluence with Middle Branch.

City / County: Prince William Co. Stafford Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

2006 Assessment: E. coli bacteria criterion excursions (3 of 12 samples - 25.0%) from USGS station 01659000.

North Branch Chopawamsic Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			6.90

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A26R-05-BAC** **South Fork Quantico Creek**

Location: Begins at the headwaters of the South Fork Quantico Creek and continues downstream until the start of the impounded waters, adjacent to what is labeled as Mawavi Camp No 2 on the Joplin quad.

City / County: Prince William Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (5 of 44 samples - 11.4%) from USGS station 01658500.

South Fork Quantico Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			4.63

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A26R-06-BAC** **Little Creek**

Location: Begins at the headwaters of Little Creek and continues downstream until the confluence with the Potomac River.

City / County: Prince William Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (7 of 16 samples - 43.8%) from station 1aLIE000.52, at Geiger Road.

Little Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			3.78

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A27R-01-BAC** **Aquia Creek**

Location: Begins at the confluence with Cannon Creek, approximately 0.1 rivermile downstream from Route 610, and continues downstream until Smith Lake (Aquia Reservoir).

City / County: Stafford Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 15 samples - 20.0%) from station 1aAUA014.51, at Route 641.

Aquia Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			6.47

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A28E-01-BAC** **Aquia Creek**

Location: Segment extends from rivermile 4.28 to rivermile 3.28 in Aquia Creek encompassing a 0.5-mile radius around station 1aAUA003.71.

City / County: Stafford Co.

Use(s): Recreation

Cause(s) /

VA Category: Enterococcus / 5A

Enterococci bacteria criterion excursions (4 of 24 samples - 16.7%) from station 1aAUA003.71, at the railroad bridge crossing.

Aquia Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:			0.364

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A28E-01-CHLR** **Aquia Creek**

Location: Segment extends from rivermile 4.28 to rivermile 3.28 in Aquia Creek encompassing a 0.5-mile radius around station 1aAUA003.71.

City / County: Stafford Co.

Use(s): Aquatic Life Wildlife

Cause(s) /
VA Category: Chloride / 5C

For the 2004 assessment, more than two chloride exceedances were recorded within a three-year period resulting in an assessment of not supporting the aquatic life use goal. While the data within the 2008 assessment period show no exceedances at DEQ ambient station 1aAUA003.71, the impairment remains because no new data has been collected since the 2004 assessment period.

Aquia Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Chloride - Total Impaired Size by Water Type:	0.364		

Aquia Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Wildlife			
Chloride - Total Impaired Size by Water Type:	0.364		

Sources:

Natural Sources

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A28R-01-BAC** **Austin Run**

Location: Begins at the confluence with an unnamed tributary to Austin Run (streamcode XGQ) and continues downstream until the confluence with Aquia Creek.

City / County: Stafford Co.

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

2006 Assessment: Fecal coliform bacteria criterion excursions (3 of 8 samples - 37.5%) from station 1aAUS000.49, at the end of Aquia Drive.

Austin Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			0.79

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A29E-01-CHLR** **Potomac Creek**

Location: Extends a half-mile radius around monitoring station 1aPOM002.41.

City / County: King George Co. Stafford Co.

Use(s): Aquatic Life Wildlife

Cause(s) /
VA Category: Chloride / 5C

For the 2004 assessment, more than two chloride exceedances were recorded within a three-year period resulting in an assessment of not supporting the aquatic life use goal. While the data within the 2008 assessment period show only one exceedance at DEQ ambient station 1aPOM002.41, the impairment remains because no new data has been collected since the 2004 assessment period.

Potomac Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Chloride - Total Impaired Size by Water Type:	0.600		
Potomac Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Wildlife			
Chloride - Total Impaired Size by Water Type:	0.600		

Sources:

Natural Sources

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A29E-02-BAC** Fairview Beach (Potomac River)

Location: Includes all of Fairview Beach on the Potomac River.

City / County: King George Co.

Use(s): Recreation

Cause(s) /
VA Category: Enterococcus / 5A

Enterococci bacteria criterion excursions (10 of 18 samples - 55.6%) from VDH station VA351214, at Fairview Beach.

Fairview Beach (Potomac River)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	0.012		

Sources:

- Pipeline Breaks
- Sanitary Sewer Overflows
(Collection System Failures)

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A29L-01-DO** **Curtis Lake**

Location: Includes all of Curtis Lake.

City / County: Stafford Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

2006 Assessment: Excursions below the instantaneous dissolved oxygen criterion (8 of 41 samples - 19.5%) at station 1aLOH007.93, one hundred feet from the dam.

Curtis Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			57.99

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A29L-01-PH** **Curtis Lake**

Location: Includes all of Curtis Lake.

City / County: Stafford Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: pH / 5C

2006 Assessment: Excursions excursions above the upper limit of the pH criterion range (7 of 41 samples - 17.1%) at station 1aLOH007.93, one hundred feet from the dam.

Curtis Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			57.99

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A29R-01-BAC** **Accokeek Creek**

Location: Begins at the confluence with an unnamed tributary to Accokeek Creek, approximately 0.33 rivermile downstream from Route 1 at rivermile 8.62, and continues downstream until the end of the free-flowing waters.

City / County: Stafford Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (4 of 13 samples - 30.8%) from station 1aACC006.13, at Route 608.

Accokeek Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			4.21

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A29R-02-BAC** Potomac Creek

Location: Begins at the railroad crossing at the west end of swamp, upstream from Route 608, and continues downstream until the east end of swamp.

City / County: Stafford Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (4 of 13 samples - 30.8%) at station 1aPOM006.72, at Route 608.

Potomac Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			2.18

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A29R-02-DO** Potomac Creek

Location: Begins at the railroad crossing at the west end of swamp, upstream from Route 608, and continues downstream until the east end of swamp.

City / County: Stafford Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5C

Excursions below the instantaneous dissolved oxygen criterion (5 of 17 samples - 29.4%) at station 1aPOM006.72, at Route 608.

Potomac Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			2.18

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A29R-02-PH** Potomac Creek

Location: Begins at the railroad crossing at the west end of swamp, upstream from Route 608, and continues downstream until the east end of swamp.

City / County: Stafford Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: pH / 5C

Excursions below the lower limit of the pH criterion range (2 of 17 samples - 11.8%) at station 1aPOM006.72, at Route 608.

Potomac Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			2.18

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A29R-03-BAC** **Potomac Run**

Location: Begins at the headwaters of Potomac Run and continues downstream until the confluence with Long Branch.

City / County: Stafford Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (10 of 13 samples - 76.9%) from station 1aPOR000.40, at Route 648.

Potomac Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			6.13

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A29R-04-BAC** Potomac Creek

Location: Begins at the outlet of Abel Lake and continues downstream until the confluence with an unnamed tributary to Potomac Creek, at rivermile 9.12.

City / County: Stafford Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 13 samples - 15.4%) from station 1aPOM012.24, at Route 627.

Potomac Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			3.66

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A30E-01-PCB**

Coan River, Monroe Creek, Upper Machodoc Creek

Location: Includes the tidal portions of the following tributaries from the Potomac River Bridge at Route 301 to the mouth of the Potomac River near Smith Point: Upper Machodoc Creek, Monroe Creek, and Coan River.

City / County: King George Co. Northumberland Co. Westmoreland Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: PCB in Fish Tissue / 4A

PCB in Fish Tissue / 5A

The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, PCB fish consumption advisory. The advisory, dated 12/13/04, limits consumption of channel catfish, gizzard shad, and white perch to no more than two meals per month.

Coan River, Monroe Creek, Upper Machodoc Creek

Fish Consumption

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

PCB in Fish Tissue - Total Impaired Size by Water Type:

6.109

Sources:

Atmospheric Deposition -
Toxics

Combined Sewer Overflows

Contaminated Sediments

Discharges from Municipal
Separate Storm Sewer
Systems (MS4)

Industrial Point Source
Discharge

Municipal Point Source
Discharges

Non-Point Source

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A30E-01-SF** **Gambo Creek, Upper Machodoc Creek**

Location: Defined as Section A of the shellfish condemnation.

City / County: King George Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The shellfishing use is categorized as impaired due to a Virginia Department of Health, Division of Shellfish Sanitation, Notice and Description of Shellfish Area Condemnation Number 001A-036, Upper Machodoc Creek, dated 5/15/06.

Gambo Creek, Upper Machodoc Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			0.234

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A30E-02-SF** **Upper Machodoc Creek**

Location: Defined as Section B of the shellfish condemnation.

City / County: King George Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The shellfishing use is categorized as impaired due to a Virginia Department of Health, Division of Shellfish Sanitation, Notice and Description of Shellfish Area Condemnation Number 001A-036, Upper Machodoc Creek, dated 5/15/06.

Upper Machodoc Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			0.029

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A30E-03-SF** **Upper Machodoc Creek**

Location: Defined as Section E of the shellfish condemnation.

City / County: King George Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The shellfishing use is categorized as impaired due to a Virginia Department of Health, Division of Shellfish Sanitation, Notice and Description of Shellfish Area Condemnation Number 001A-036, Upper Machodoc Creek, dated 5/15/06.

Upper Machodoc Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			0.500

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A30E-04-PH** Williams Creek

Location: Begins at the head of tide of Williams Creek and continues downstream until the confluence with Upper Machodoc Creek.

City / County: King George Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: pH / 5A

2006 Assessment: Excursions below the lower limit of the instantaneous pH criterion range (1 of 5 samples - 20.0%) from station 1aWLL001.30, at Route 206. The segment shall remain categorized as impaired.

Williams Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			0.148

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A30E-04-SF** Williams Creek, Upper Machodoc Creek

Location: Defined as Section C of the shellfish condemnation.

City / County: King George Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The shellfishing use is categorized as impaired due to a Virginia Department of Health, Division of Shellfish Sanitation, Notice and Description of Shellfish Area Condemnation Number 001A-036, Upper Machodoc Creek, dated 5/15/06.

Williams Creek, Upper Machodoc Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	0.239		

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A30E-05-SF** Williams Creek

Location: Defined as Section G of the shellfish condemnation.

City / County: King George Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The shellfishing use is categorized as impaired due to a Virginia Department of Health, Division of Shellfish Sanitation, Notice and Description of Shellfish Area Condemnation Number 001A-036, Upper Machodoc Creek, dated 5/15/06.

Williams Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			0.015

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A30E-06-SF** **Deep Creek**

Location: Defined as Section D of the shellfish condemnation.

City / County: King George Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

The shellfishing use is categorized as impaired due to a Virginia Department of Health, Division of Shellfish Sanitation, Notice and Description of Shellfish Area Condemnation Number 001A-036, Upper Machodoc Creek, dated 5/15/06.

Deep Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			0.028

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A30R-02-BAC** **Upper Machodoc Creek**

Location: Begins at the confluence with Pepper Mill Creek, approximately 0.75 rivermile upstream from Route 301, and continues downstream until confluence with Deep Creek.

City / County: King George Co.

Use(s): Recreation

Cause(s) /

VA Category: Enterococcus / 5A

Fecal Coliform / 5A

2006 Assessment: Fecal coliform bacteria criterion excursions (2 of 7 samples - 28.6%) from station 1aUMC009.61, at Route 301. Enterococci bacteria criterion excursions (4 of 14 samples - 28.6%) from station 1aUMC004.43, at Route 218.

Upper Machodoc Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:	0.500		
Upper Machodoc Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			2.19

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A31E-01-SF** **Rosier Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation Number 088A, 7/1/1998

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation 088A, 7/1/1998

The Shellfish TMDL for the portion of the Rosier Creek that was impaired in the 1998 cycle was developed during the 2008 cycle. The TMDL was approved by EPA on 6/8/2006. The lower portion of the current condemnation 088A (7/19/2006) was not included in the TMDL and is now included under A31E-01-SF2.

Rosier Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	0.206		

Sources:

Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A31E-01-SF2** **Rosier Creek**

Location: The portion of VDH Shellfish Condemnation 088A (7/19/2006) which was not included in the Rosier Creek Shellfish TMDL.

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH-DSS Shellfish Condemnation 088A, 7/19/2006

The Shellfish TMDL for the portion of the Rosier Creek that was impaired in the 1998 cycle was developed during the 2008 cycle. The TMDL was approved by EPA on 6/8/2006. The lower portion of the condemnation was not included in the TMDL and is now included under A31E-01-SF2

Rosier Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	0.104		

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A31E-04-SF** **Monroe Creek**

Location: Described in VDH Condemnation Notice 002-001A, 9/22/2006

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation 002-001A, 9/22/2006

Segment shortened in 2008. The Shellfish TMDL for Monroe Creek was approved by EPA on 6/8/2006. The water is considered Category 4A. Note: the TMDL included both section 001A and the downstream M1 segment.

Monroe Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
			0.473

Sources:

Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A31E-06-BAC**

Mattox Creek

Location: Described in VDH Notice and Description of Shellfish Condemnation Number 001B, 9/22/2006

City / County: Westmoreland Co.

Use(s): Recreation

Cause(s) /

VA Category: Enterococcus / 4A

The segment was initially listed in 1996 based on excessive fecal coliform standards at the Route 205 bridge (1AMAO004.08).

The segment was adjusted during the 2006 cycle to be coincident with VDH-DSS Shellfish Condemnation 001B (11/15/2004).

During the 2006 cycle, the Recreation Use impairment switched to Enterococci with a violation rate of 5/12 at 1AMAO004.08.

The segment was initially listed in 1996 based on excessive fecal coliform standards at the Route 205 bridge (1AMAO004.08).

The segment was adjusted during the 2006 cycle to be coincident with VDH-DSS Shellfish Condemnation 001B (11/15/2004) and the Recreation Use impairment switched to Enterococci with a violation rate of 5/12 at 1AMAO004.08.

During the 2008 cycle, the segment remained impaired due to Enterococci violation rates of 2/5 at 1AMAO001.36 and 5/12 at 1AMAO004.08. However, the shellfish TMDL for the Mattox Creek Watershed was approved by EPA on 12/4/2006; the segment will be considered Category 4A for the Recreation Use.

Mattox Creek

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Enterococcus - Total Impaired Size by Water Type:

0.633

Sources:

Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A31E-06-SF** **Mattox Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation Number 001B, 9/22/2006

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 4A

The segment has been considered impaired of the Shellfish Consumption Use since 1996. The impairment is currently described in VDH-DSS Shellfish Condemnation 001B 9/22/2006. The Shellfish TMDL for the Mattox Creek Watershed was developed during the 2008 cycle and was approved by EPA on 12/4/2006. The water is considered Category 4A for the Shellfish Use.

Mattox Creek	Estuary	Reservoir	River
Shellfishing	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			
	0.623		

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A31E-07-BAC** **Popes Creek**

Location: From the extent of tide to the mouth of Popes Creek

City / County: Westmoreland Co.

Use(s): Recreation

Cause(s) /
VA Category: Enterococcus / 5A

The segment was previously assessed as not supporting the Shellfish Consumption Use based on VDH-DSS Shellfish Condemnation 146, 4/27/1989; this condemnation has been replaced by 003-146, 10/5/2005. The TMDL was due 2010.

During the 2008 cycle, the Popes Creek bacteria shellfish TMDL was developed and approved by EPA on 6/8/2006. The segment is considered Category 4A for the Shellfish Use.

Popes Creek	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Enterococcus - Total Impaired Size by Water Type:	0.573		

Sources:

Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A31E-07-SF** **Popes Creek**

Location: From the extent of tide to the mouth of Popes Creek

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 4A

The segment was previously assessed as not supporting the Shellfish Consumption Use based on VDH-DSS Shellfish Condemnation 146, 4/27/1989; this condemnation has been replaced by 003-146, 10/5/2005. The TMDL was due 2010.

During the 2008 cycle, the Popes Creek bacteria shellfish TMDL was developed and approved by EPA on 6/8/2006. The segment is considered Category 4A for the Shellfish Use.

Popes Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	0.573		

Sources:

Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A31E-11-BAC** **Bridges Creek**

Location: The tidal portion of Bridges Creek

City / County: Westmoreland Co.

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

Bridges Creek was assessed as not supporting of the Recreation Use support goal during the 2004 cycle based on a fecal coliform violation rate of 2/2 at 01660860, a USGS station. There has been no Enterococcus monitoring, therefore the fecal coliform impairment is carried over.

Bridges Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			
			0.182

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A31R-01** **Pine Hill Creek Watershed**

Location: Pine Hill Creek watershed from rivermile 8.36 to tidal limit at Rosier Creek.

City / County: King George Co. Westmoreland Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 4C pH / 4C

Pine Hill Creek was "identified to Virginia for listing consideration". pH was listed as the parameter of concern. During the 2002 cycle, the segment was assessed as impaired of the Aquatic Life use support goals based on DO violations and pH violations at the Route 208 bridge (1APIN000.57) and widespread pH violations upstream. The pH TMDL was due in 2010; the DO TMDL was due in 2014.

During the 2006 cycle, two Natural Condition studies were performed on Pine Hill Creek for DO and pH. The reports recommend that Pine Hill Creek below rivermile 8.36 down to its mouth at Rosier Creek and its tributaries be reclassified as Class VII swampwaters. Until the reclassification, the segments will be assessed as Cat. 4C waters.

Pine Hill Creek Watershed	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			11.47
Pine Hill Creek Watershed	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			11.47

Sources:
Natural Conditions - Water
Quality Standards Use
Attainability Analyses
Needed

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A31R-02-DO** **Mattox Creek**

Location: Mattox Creek watershed from its headwaters to the limit of tide.

City / County: King George Co. Westmoreland Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

The segment was assessed during the 2006 cycle as impaired of the Aquatic Life use support goal based on dissolved oxygen violations. The 2008 violation rates are below. The DO TMDL is due in 2018.

1AMAO007.46 - DO 4/35
1AMAO010.27 - DO 5/22

Mattox Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			31.62

Sources:

Natural Conditions - Water
Quality Standards Use
Attainability Analyses
Needed

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A31R-02-PH**

Mattox Creek

Location: Mattox Creek watershed from its headwaters to the limit of tide.

City / County: King George Co. Westmoreland Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: pH / 5C

The segment was assessed during the 1998 cycle as threatened of the Aquatic Life use support goal based on pH violations at the Route 627 bridge (1AMAO007.46). During the year 2002 cycle, the segment was downgraded based on the results of a special study and the segment length was revised to end at the tidal limit. The pH TMDL is due in 2014. During the 2006 cycle, additional monitoring in the watershed confirmed the pH impairment. The 2008 pH violation rates are below.

1AMAO007.46 - pH 16/22

1AMAO010.27 - pH 19/22

1AKIG000.62 - pH 16/22

1ACOW000.38 - pH 17/22

1AXFF001.61 - pH 8/22

The mileage was adjusted in 2006 although the area was not changed.

Mattox Creek

Aquatic Life

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

pH - Total Impaired Size by Water Type:

31.62

Sources:

Natural Conditions - Water
Quality Standards Use
Attainability Analyses
Needed

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A31R-03-DO** **Popes Creek Watershed**

Location: The Popes Creek watershed above the tidal limit.

City / County: Westmoreland Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5C

Popes Creek was initially assessed as not supporting the Aquatic Life Use in 2006 based on dissolved oxygen violations at 1APOP003.92, which is located off the George Washington National Birthplace's picnic area. During the 2008 cycle, the violation rate was 2/13 for DO.

Popes Creek Watershed	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			14.67

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A31R-03-PH** **Popes Creek Watershed**

Location: The Popes Creek watershed above the tidal limit.

City / County: Westmoreland Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: pH / 5C

Popes Creek was initially assessed as not supporting the Aquatic Life Use during the 2006 cycle based on pH violations at 1APOP003.92, which is located off the George Washington National Birthplace's picnic area. During the 2008 cycle, the violation rate was 4/13 for pH.

Popes Creek Watershed	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			14.67

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A31R-04-DO** **Monroe Creek Watershed**

Location: The Monroe Creek watershed above the tidal limit.

City / County: Westmoreland Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5C

During the 2006 cycle, Monroe Creek was assessed as not supporting the Aquatic Life Use based on DO violations at 1AMRC003.12, which is located at Route 628.

During the 2008 cycle, the violation rates at 1AMRC003.12 remained unacceptable, and additional monitoring at 1AMRC002.81 also indicated impairment.

1AMRC002.81 - DO 4/4
1AMRC003.12 - DO 13/24

Monroe Creek Watershed	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			8.82

Sources:

Natural Conditions - Water
Quality Standards Use
Attainability Analyses
Needed

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A31R-04-PH** Monroe Creek Watershed

Location: The Monroe Creek watershed above the tidal limit.

City / County: Westmoreland Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: pH / 5C

During the 2006 cycle, Monroe Creek was assessed as not supporting the Aquatic Life Use based on pH violations at 1AMRC003.12, which is located at Route 628.

During the 2008 cycle, the violation rates at 1AMRC003.12 remained unacceptable, and additional monitoring at 1AMRC002.81 also indicated impairment.

1AMRC002.81 - pH 2/4
1AMRC003.12 - pH 22/24

Monroe Creek Watershed	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			8.82

Sources:

Natural Conditions - Water
Quality Standards Use
Attainability Analyses
Needed

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A32E-01-SF** Cold Harbor Creek

Location: Described in VDH Notice and Description of Shellfish Condemnation 004-184A, 1/27/2006

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation 004-184A, 1/27/2006

The shellfish impairment was addressed in the "Chesapeake Bay: Potomac River: Nomini Creek Watershed Total Maximum Daily Load (TMDL) Report for Shellfish Condemnation Areas Listed Due to Bacteria Contamination" report, which was approved by EPA on 8/22/2007.

Cold Harbor Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	0.083		

Sources:

Non-Point Source Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A32E-02-SF** Currioman Creek

Location: Described in VDH Notice and Description of Shellfish Condemnation 184B, 8/23/2004

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 4A

VDH-DSS Shellfish Condemnation 184B, 8/23/2004

Impaired in 1998
In 2004, the condemnation boundary was altered slightly. The acreage was adjusted in 2006.

The shellfish TMDL was included in the "Chesapeake Bay: Potomac River: Nomini Creek Watershed Total Maximum Daily Load (TMDL) Report for Shellfish Condemnation Areas Listed Due to Bacteria Contamination" report, which was approved by EPA on 8/22/2007.

Currioman Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:		0.052	

Sources:

Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A32E-04-SF** **Nomini Creek, Pierce Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnations 082A and 082B, 7/3/1997

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 4A

VDH Shellfish Condemnation 004-082B and 004-082A, 7/3/1997

The Nomini Creek watershed TMDL, which was developed in the 2008 cycle and approved by EPA on 8/22/2007, addressed the 1998 portion of the impairment.

Nomini Creek, Pierce Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	0.682		

Sources:

Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A32E-04-SF2** **Nomini Creek, Pierce Creek**

Location: The portion of VDH Notice and Description of Shellfish Condemnation 004-082E, 1/27/2006 that was not included in the 2007 Nomini Creek watershed TMDL.

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH Condemnation 004-082E, 1/27/2006

Portions of Nomini Creek (0.5404 sq. mi.) and Pierce Creek (0.14 sq. mi.) were assessed as impaired in 1998. During the 2004 cycle, the condemnation was expanded and combined. In expanded during the 2008 cycle, as shown in the current condemnation 004-082, 1/27/2006. However, the Nomini Creek watershed TMDL, which was developed in the 2008 cycle and approved by EPA on 8/22/2007, only addressed the 1998 portion of the impairment. As the condemnation first expanded on the 2004 list, the TMDL for the downstream portion will be due in 2016.

Nomini Creek, Pierce Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	0.356		

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A32E-05-SF** **Buckner Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 082D, 2/10/1997

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 4A

Portion of VDH Shellfish Condemnation 004-082B, 1/27/2006

The upper portion of Buckner Creek was assessed as impaired of the Shellfish Use during the 1998 cycle due to a VDH shellfish advisory (082D, 2/10/1997). Although the closure was expanded during the 2008 cycle (004-082B 1/27/2006), the 2007 TMDL "Chesapeake Bay: Potomac River: Nomini Creek Watershed Total Maximum Daily Load (TMDL) Report for Shellfish Condemnation Areas Listed Due to Bacteria Contamination" only addressed the old upstream impaired area. This upstream portion of the condemnation will be classified as Category 4A.

Buckner Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.183		

Sources:

Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A32E-06-SF** **North Prong Buckner Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation Number 004-082D, 2/10/1997

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 4A

Portion of VDH Shellfish Condemnation 004-082A, 1/27/2006

The upper portion of North Prong Buckner Creek was assessed as impaired of the Shellfish Use during the 1998 cycle due to a VDH shellfish advisory (082E, 2/10/1997). Although the closure was expanded during the 2008 cycle (004-082A, 1/27/2006), the 2007 TMDL "Chesapeake Bay: Potomac River: Nomini Creek Watershed Total Maximum Daily Load (TMDL) Report for Shellfish Condemnation Areas Listed Due to Bacteria Contamination" only addressed the old upstream impaired area. This upstream portion of the condemnation will be classified as Category 4A.

North Prong Buckner Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	0.023		

Sources:

Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A32E-08-SF** **Lower Machodoc Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 083B, 12/21/2006

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

0.36 sq. miles of Lower Machodoc Creek was assessed in 1998 as impaired of the Shellfish Use due to a VDH shellfish condemnation. The segment was shortened in 2002 and then extended to 0.53 sq. miles in 2004 and adjusted to 0.51 in 2006. During the 2008 cycle, the segment reduced to 0.4257 sq. mi.

Lower Machodoc Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.426		

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A32E-09-SF** **Branson Cove**

Location: Described in VDH Notice and Description of Shellfish Condemnation Number 083C

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS Shellfish Condemnation 005-083C, 12/21/2006

Branson Cove	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:		0.020	

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A32E-10-SF** Weatherall Creek

Location: Described in VDH Notice and Description of Shellfish Condemnation 083B, 12/18/2002

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS Shellfish Condemnation 083E, 12/21/2006

Weatherall Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:		0.056	

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A32E-11-SF** Cabin Point Creek

Location: Described in VDH Notice and Description of Shellfish Condemnation 005-083D, 12/21/2006

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH Condemnation Notice 005-083D, 12/21/2006 - previously considered nonproductive and the use was removed. Added in 2008 cycle.

Cabin Point Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			0.122

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A32E-12-SF** Glebe Creek and Ames Creek

Location: Described in VDH Notice and Description of Shellfish Condemnation 005-083A, 12/21/2006

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH Condemnation Notice 005-083A, 12/21/2006

Glebe Creek and Ames Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	0.132		

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A32E-13-SF** Currioman Creek

Location: The portion of VDH Notice and Description of Shellfish Condemnation 004-184B, 1/27/2006 that was not included in the 8/23/2004 condemnation

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH Shellfish condemnation 004-184B, 1/27/2006

The upstream portion of Currioman Creek has been listed for shellfish condemnations since 1998. The condemnation expanded on 1/27/2006, however the 2007 TMDL did not address the expanded portion. The expansion is first listed in 2008, therefore the TMDL will be due in 2020.

Currioman Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	0.020		

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A32E-14-SF** **Poor Jack Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 004-184C, 1/27/2006

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH Condemnation Notice 004-184C, 1/27/2006

Poor Jack Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.147		

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A32E-15-SF** **Davis Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 004-082D, 1/27/2006

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH Condemnation Notice 004-082D, 1/27/2006

Davis Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:		0.016	

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A32E-16-SF** **Jules Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 004-082C, 1/27/2006

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH Condemnation Notice 004-082C, 1/27/2006

Jules Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.045		

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A32E-17-SF** Matthews Cove

Location: Described in VDH Notice and Description of Shellfish Condemnation 004-082G, 1/27/2006

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH Condemnation Notice 004-082G, 1/27/2006

Matthews Cove	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	0.019		

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A32E-18-SF** Barnes Creek

Location: Portion of VDH Notice and Description of Shellfish Condemnation 004-082F, 1/27/2006

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH Shellfish Condemnation 004-082F, 1/27/2006

The upper portion of Barnes Creek was assessed as impaired of the Shellfish Use during the 1998 cycle due to a VDH shellfish advisory (082C, 2/10/1997). Although the segment had been delisted in previous cycles, the area reclosed during the 2008 cycle (082F 1/27/2006). This 2006 closure was larger than the 1998 impairment, however the 2007 TMDL "Chesapeake Bay: Potomac River: Nomini Creek Watershed Total Maximum Daily Load (TMDL) Report for Shellfish Condemnation Areas Listed Due to Bacteria Contamination" only addressed the old upstream impaired area. The upstream portion of the condemnation will be classified as Category 4A, however this lower portion is considered Category 5B; the TMDL is due in 2020.

Barnes Creek	Estuary	Reservoir	River
Shellfishing	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:		0.027	

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A32E-19-SF** **Barnes Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 082C, 2/10/1997

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) /

VA Category: Fecal Coliform / 4A

Portion of VDH Shellfish Condemnation 004-082F, 1/27/2006 - described in 082C, 2/10/1997

The upper portion of Barnes Creek was assessed as impaired of the Shellfish Use during the 1998 cycle due to a VDH shellfish advisory (082C, 2/10/1997). Although the segment had been delisted in previous cycles, the area reclosed during the 2008 cycle (082F 1/27/2006). This 2006 closure was larger than the 1998 impairment, however the 2007 TMDL "Chesapeake Bay: Potomac River: Nomini Creek Watershed Total Maximum Daily Load (TMDL) Report for Shellfish Condemnation Areas Listed Due to Bacteria Contamination" only addressed the old upstream impaired area. The upstream portion of the condemnation will be classified as Category 4A.

Barnes Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:		0.057	

Sources:

Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A32E-20-SF** **Buckner Creek**

Location: Portion of VDH Notice and Description of Shellfish Condemnation 004-082B, 1/27/2006.

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH Shellfish Condemnation 004-082B, 1/27/2006

The upper portion of Buckner Creek was assessed as impaired of the Shellfish Use during the 1998 cycle due to a VDH shellfish advisory (082D, 2/10/1997). Although the closure was expanded during the 2008 cycle (004-082B 1/27/2006), the 2007 TMDL "Chesapeake Bay: Potomac River: Nomini Creek Watershed Total Maximum Daily Load (TMDL) Report for Shellfish Condemnation Areas Listed Due to Bacteria Contamination" only addressed the old upstream impaired area.

Buckner Creek	Estuary	Reservoir	River
Shellfishing	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			
0.065			

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A32E-21-SF** **North Prong Buckner Creek**

Location: Portion of VDH Notice and Description of Shellfish Condemnation Number 004-082A, 1/27/2006

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH Shellfish Condemnation 004-082A, 1/27/2006

The upper portion of North Prong Buckner Creek was assessed as impaired of the Shellfish Use during the 1998 cycle due to a VDH shellfish advisory (082E, 2/10/1997). Although the closure was expanded during the 2008 cycle (004-082A, 1/27/2006), the 2007 TMDL "Chesapeake Bay: Potomac River: Nomini Creek Watershed Total Maximum Daily Load (TMDL) Report for Shellfish Condemnation Areas Listed Due to Bacteria Contamination" only addressed the old upstream impaired area. This lower portion is considered Category 5B; the TMDL is due in 2020.

North Prong Buckner Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	0.060		

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A32R-01-DO** **Thompson Branch**

Location: Thompson Branch from its headwaters to the tidal limit.

City / County: Westmoreland Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5C

Thompson Branch was initially assessed as not supporting the Aquatic Life Use during the 2006 cycle based on dissolved oxygen violations at Route 626 (1ATHP001.15), as well as DO violations at special study stations in the creek (1/1).

During the 2008 cycle, the segment remained impaired with a DO violation rate of 4/14.

Thompson Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			1.58

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A32R-01-PH** **Thompson Branch**

Location: Thompson Branch from its headwaters to the tidal limit.

City / County: Westmoreland Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: pH / 5C

Thompson Branch was initially assessed as not supporting the Aquatic Life Use during the 2006 cycle based on pH violations at Route 626 (1ATHP001.15), as well as pH violations at special study stations in the creek (1/1).

During the 2008 cycle, the segment remained impaired with a pH violation rate of 12/14.

Thompson Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			1.58

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A33E-01-SF** **Gardner Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 006-143A, 4/14/2006

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS Shellfish Condemnation 006-143A, 4/14/2006

Closure expanded during the 2008 cycle.

Gardner Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
			0.184

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A33E-02-SF** **Jackson Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 006-143B, 4/14/2006

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS Condemnation Notice 006-143B, 4/14/2006

Square mileage adjusted in 2006, although the actual area was not changed.

Jackson Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.137		

Sources:

Source Unknown

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Potomac and Shenandoah River Basins

Cause Group Code **A33E-03-SF** **Bonum Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 006-143C, 4/14/2006

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS Shellfish Condemnation 006-143C, 4/14/2006

Mileage adjusted in 2006, although area remained the same

Bonum Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.210		

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A33E-04-BAC** **Lodge Creek**

Location: Lodge Creek from its tidal limit to the downstream extent of VDH-DSS condemnation 007-028F, 5/12/1997

City / County: Northumberland Co.

Use(s): Recreation

Cause(s) /
VA Category: Enterococcus / 5A

Lodge Creek from its tidal limit downstream to the end of VDH-DSS condemnation 007-028F,5/12/1997 has been assessed as not supporting the Recreation Use due to enterococci violations at 1ALOG001.20, which is located at the end of Route 712. During the 2008 cycle the violation rate was 3/18. The segment was expanded during the 2008 cycle.

The bacteria TMDL for shellfish impairments in the Yeocomico River watershed was completed during the 2008 cycle and was approved by EPA on 6/8/2006. Section 028F was addressed in the report. However, the recreation impairment was not specifically addressed, therefore the impairment will remain Category 5A.

Lodge Creek	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Enterococcus - Total Impaired Size by Water Type:	0.301		

Sources:
Non-Point Source

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Potomac and Shenandoah River Basins

Cause Group Code **A33E-05-SF** **White Point Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 028B, 5/12/1997

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 4A

Portion of VDH-DSS Condemnation Notice 007-028B, 12/12/2006

The segment was listed as impaired of the Shellfish Consumption Use due to condemnation 007-028B, 5/12/1997. The condemnation grew during the 2008 cycle (007-028B, 12/12/2006), however only the original 1998 portion was included in the Yeocomico River Watershed TMDL Report, which was developed during the 2008 cycle and approved by EPA on 6/8/2006. This original upstream portion will be considered as Category 4A.

White Point Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
			0.079

Sources:

Non-Point Source

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Potomac and Shenandoah River Basins

Cause Group Code **A33E-06-SF**

Mill Creek and Drum Cove

Location: Portion of VDH Notice and Description of Shellfish Condemnation 007-028E, 12/12/2006 not included in 5/12/1997 condemnation (includes Drum Cove)

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /

VA Category: Fecal Coliform / 5B

Portion of VDH-DSS Condemnation Notice 007-028E, 12/12/2006

The upper portion of Mill Creek was listed as impaired of the Shellfish Consumption Use in the 1998 cycle due to condemnation 007-028E, 5/12/1997. Drum Cove, a small cove further downstream on Mill Creek, became impaired in the 2006 cycle (see 028D, 7/21/2004). The condemnations grew and merged during the 2008 cycle (007-028E, 12/12/2006), however only the original 1998 portion of Mill Creek was included in the Yeocomico River Watershed TMDL Report, which was developed during the 2008 cycle and approved by EPA on 6/8/2006. Because Drum Cove was initially listed in the 2006 cycle, the TMDL for this expansion is due in 2018.

Mill Creek and Drum Cove

Shellfishing

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Fecal Coliform - Total Impaired Size by Water Type:

0.093

Sources:

Source Unknown

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Potomac and Shenandoah River Basins

Cause Group Code **A33E-07-SF** **Hampton Hall Branch, Kinsale Branch**

Location: Described in VDH Notice and Description of Shellfish Condemnation 028C, 5/12/1997

City / County: Northumberland Co. Westmoreland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 4A

Portion of VDH-DSS Shellfish Condemnation Number 007-028C, 12/12/2006

Hampton Hall Branch and Kinsale Branch listed as impaired of the Shellfish Consumption Use due to condemnation 007-028C, 5/12/1997. The condemnation has changed size several times through the assessments cycles, including separating into two separate condemnation areas. During the 2008 cycle, the segment expanded further downstream into the West Yeocomico River (007-028C, 12/12/2006), however only the original 1998 portion was included in the Yeocomico River Watershed TMDL Report, which was developed during the 2008 cycle and approved by EPA on 6/8/2006. This original upstream portion will be considered as Category 4A.

Hampton Hall Branch, Kinsale Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	0.434		

Sources:

Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A33E-09-SF** **Mill Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 028E, 5/12/1997

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 4A

Portion of VDH-DSS Condemnation Notice 007-028E, 12/12/2006

The upper part of Mill Creek was listed as impaired of the Shellfish Consumption Use in the 1998 cycle due to condemnation 007-028E, 5/12/1997. The condemnation grew during the 2008 cycle (007-028E, 12/12/2006), however only the original 1998 portion was included in the Yeocomico River Watershed TMDL Report, which was developed during the 2008 cycle and approved by EPA on 6/8/2006. This original segment is considered Category 4A.

Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.213		

Sources:

Non-Point Source

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Potomac and Shenandoah River Basins

Cause Group Code **A33E-10-SF** Lodge Creek

Location: Described in VDH Notice and Description of Shellfish Condemnation 007-028F,12/12/2006

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 4A

Portion of VDH-DSS Shellfish Condemnation 007-028F, 12/12/2006

The portion of Lodge Creek was assessed as impaired of the Shellfish Use in 1998 due to VDH condemnation 028F, 5/12/1997. During the 2008 cycle the closure was expanded (007-028F, 12/12/2006), however the bacteria TMDL for shellfish impairments in the Yeocomico River Watershed, which was approved by EPA on 6/8/2006, only addressed the original 1997 portion. This original portion is considered Category 4A for the Shellfish Use.

Lodge Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.271		

Sources:

Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A33E-11-SF** **Dungan Cove**

Location: Described in VDH Notice and Description of Shellfish Condemnation 007-028G, 5/12/1997

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 4A

Portion of VDH-DSS Shellfish Condemnation 007-028H, 12/12/2006

A portion of Dungan Cove was assessed as impaired of the Shellfish Use in 1998 due to VDH condemnation 028G, 5/12/1997. During the 2008 cycle the closure was expanded (007-028H, 12/12/2006), however the bacteria TMDL for shellfish impairments in the Yeocomico River Watershed, which was approved by EPA on 6/8/2006, only addressed the original 1997 portion. This original portion is considered Category 4A for the Shellfish Use.

Dungan Cove	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
			0.024

Sources:

Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A33E-12-SF** **Shannon Branch**

Location: As described in VDH Notice and Description of Shellfish Condemnation 007-028A, 12/12/2006

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS Shellfish Condemnation 007-028A, 12/12/2006

Size increased during the 2008 cycle.

Shannon Branch	Estuary	Reservoir	River
Shellfishing	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			
	0.232		

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A33E-13-SF** **White Point Creek**

Location: Portion of VDH Notice and Description of Shellfish Condemnation 007-028B,12/12/2006 not included in the 5/12/1997 condemnation

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH-DSS Condemnation Notice 007-028B, 12/12/2006

The upper part of White Point Creek was listed as impaired of the Shellfish Consumption Use due to condemnation 007-028B, 5/12/1997. The condemnation grew during the 2008 cycle (007-028B, 12/12/2006), however only the original 1998 portion was included in the Yeocomico River Watershed TMDL Report, which was developed during the 2008 cycle and approved by EPA on 6/8/2006. The TMDL for this expanded area is due in 2020.

White Point Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.052		

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A33E-14-SF**

West Yeocomico River / Long Cove

Location: Portion of VDH Notice and Description of Shellfish Condemnation 007-028C, 12/12/2006 not included in the 5/12/1997 condemnation

City / County: Northumberland Co. Westmoreland Co.

Use(s): Shellfishing

Cause(s) /

VA Category: Fecal Coliform / 5B

Portion of VDH-DSS Shellfish Condemnation Number 007-028C, 12/12/2006

Hampton Hall Branch and Kinsale Branch were listed as impaired of the Shellfish Consumption Use due to condemnation 007-028C, 5/12/1997. The condemnation has changed size several times through the assessments cycles, including separating into two separate condemnation areas. During the 2008 cycle, the segment expanded further downstream into the West Yeocomico River and Long Cove (007-028C, 12/12/2006), however only the original 1998 portion was included in the Yeocomico River Watershed TMDL Report, which was developed during the 2008 cycle and approved by EPA on 6/8/2006. This downstream portion of the condemnation is considered Category 5B; the TMDL will be due in 2020.

West Yeocomico River / Long Cove

Shellfishing

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Fecal Coliform - Total Impaired Size by Water Type:

0.157

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A33E-15-EBEN** **West Yeocomico River**

Location: The West Yeocomico River.

City / County: Northumberland Co. Westmoreland Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Estuarine Bioassessments / 5A

The West Yeocomico River is assessed as not supporting of the Aquatic Life Use due to benthic community alteration at estuarine probabilistic monitoring station 1AWES001.00 in 2004.

West Yeocomico River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Estuarine Bioassessments - Total Impaired Size by Water Type:	0.424		

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A33E-16-SF** **West Yeocomico River**

Location: VDH Notice and Description of Shellfish Condemnation 007-028D,12/12/2006

City / County: Westmoreland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS Shellfish Condemnation Number 007-028D, 12/12/2006

West Yeocomico River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:		0.053	

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A33E-17-SF** Lodge Creek

Location: Portion of VDH Notice and Description of Shellfish Condemnation 007-028F,12/12/2006 not included in the 5/12/1997 condemnation

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH-DSS Condemnation Notice 007-028F, 12/12/2006

The upper part of Lodge Creek was listed as impaired of the Shellfish Consumption Use due to condemnation 007-028F, 5/12/1997. The condemnation grew during the 2008 cycle (007-028F, 12/12/2006), however only the original 1998 portion was included in the Yeocomico River Watershed TMDL Report, which was developed during the 2008 cycle and approved by EPA on 6/8/2006. The TMDL for this expanded area is due in 2020.

Lodge Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.081		

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A33E-18-SF** Palmer Cove

Location: VDH Notice and Description of Shellfish Condemnation 007-028G,12/12/2006

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS Shellfish Condemnation Number 007-028G, 12/12/2006

Palmer Cove	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.094		

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A33E-19-SF** **Dungan Cove**

Location: Portion of VDH Notice and Description of Shellfish Condemnation 007-028H,12/12/2006 not included in the 5/12/1997 condemnation

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH-DSS Condemnation Notice 007-028H, 12/12/2006

The upper part of Dungan Cove was listed as impaired of the Shellfish Consumption Use in the 1998 cycle due to condemnation 007-028G, 5/12/1997. The condemnation grew during the 2008 cycle (007-028H, 12/12/2006), however only the original 1998 portion was included in the Yeocomico River Watershed TMDL Report, which was developed during the 2008 cycle and approved by EPA on 6/8/2006. The TMDL for this expanded area is due in 2020.

Dungan Cove	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.063		

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A33R-01-BAC** **Mill Creek**

Location: From its headwaters to Courtney Millpond.

City / County: Northumberland Co.

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

During the 2002 cycle, Mill Creek was assessed not supporting of the Recreation use goal based on fecal coliform violations at Route 202 (1AMIA004.12).

There has been no additional monitoring since 2001.

Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			3.94

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A33R-01-PH** **Mill Creek**

Location: From its headwaters to Courtney Millpond.

City / County: Northumberland Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: pH / 5C

During the 2002 cycle, Mill Creek was assessed not supporting of the Aquatic Life use support goal based on pH standard violations at Route 202 (1AMIA004.12).

There has been no additional monitoring since 2001.

Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			3.94

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A34E-01-SF** **The Glebe**

Location: Described in VDH Notice and Description of Shellfish Condemnation 145D, 2/25/1997

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 4A

Portion of VDH Shellfish Condemnation 008-213C, 2/10/2006

A 0.13 portion of Glebe Creek was initially assessed as impaired of the Shellfish Use due to VDH-DSS Condemnation Notice 145D, 2/25/1997. In the 2004 cycle, the segment was extended to match condemnation 145C, 11/27/2002; however, the 12/02/2004 TMDL was only performed on the 1998 portion. the original impairment will be classified as Cat. 4A, TMDL completed.

The Glebe	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.132		

Sources:

Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A34E-01-SF2** **The Glebe**

Location: Portion of VDH Notice and Description of Shellfish Condemnation 008-213C, 2/10/2006 not included in the 1997 impairment

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

A 0.13 portion of Glebe Creek was initially assessed as impaired of the Shellfish Use due to VDH-DSS Condemnation Notice 145D, 2/25/1997. In the 2004 cycle, the segment was extended to match condemnation 145C, 11/27/2002. However, the 12/02/2004 TMDL was only performed on the 1998 portion. The AU has been shortened to match the original impairment, which will be classified as Cat. 4A, TMDL completed. The portion of Glebe Creek that was impaired in 2004 will have a due date of 2016.

The Glebe	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:		0.089	

Sources:

Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A34E-02-SF** Killneck Creek

Location: Described in VDH Notice and Description of Shellfish Condemnation 008-214B, 2/17/2005

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 4A

VDH-DSS condemnation 008-214B, 2/17/2005

The shellfish condemnation for this segment was included in "Coan River Watershed Total Maximum Daily Load (TMDL) Report for Six Shellfish Areas", which was completed during the 2006 cycle and approved by EPA on 12/18/2003 and by the SWCB on 12/02/2004. The segment should be classified as Category 4A for shellfish consumption.

Killneck Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:		0.049	

Sources:

Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A34E-03-SF** **Stevens Point**

Location: Described in VDH Notice and Description of Shellfish Condemnation 008-214C, 2/17/2005

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 4A

VDH-DSS Condemnation Notice 008-214C, 2/17/2005

The shellfish condemnation for this segment was included in "Coan River Watershed Total Maximum Daily Load (TMDL) Report for Six Shellfish Areas", which was completed during the 2006 cycle and approved by EPA on 12/18/2003 and by the SWCB on 12/02/2004. The segment should be classified as Category 4A for shellfish consumption.

Stevens Point	Estuary	Reservoir	River
Shellfishing	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:		0.039	

Sources:

Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A34E-04-SF** Coan River, UT

Location: Described in VDH Notice and Description of Shellfish Condemnation Number 008-214D, 12/29/2003

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 4A

Portion of VDH-DSS Shellfish Condemnation 008-214D, 2/17/2005

The shellfish condemnation for this segment was included in "Coan River Watershed Total Maximum Daily Load (TMDL) Report for Six Shellfish Areas", which was completed during the 2006 cycle and approved by EPA on 12/18/2003 and by the SWCB on 12/02/2004. The segment, as shown in 008-214D 12/29/2003 should be classified as Category 4A for shellfish consumption.

Size increased in 2004 cycle.

Coan River, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:		0.054	

Sources:

Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A34E-05-SF** **Headly Cove**

Location: Described in VDH Notice and Description of Shellfish Condemnation Number 145H, 2/25/1997

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 4A

Portion of VDH-DSS Condemnation Notice 8-214D, 2/17/2005

Headly Cove was assessed as impaired of the Shellfish Use in 1998 because of VDH SFC 145I, 2/25/1997. During the 2004 cycle, the segments expanded and merged with the condemnation on the mainstem Coan River. However only the original segment was included in "Coan River Watershed Total Maximum Daily Load (TMDL) Report for Six Shellfish Areas", which was completed during the 2006 cycle and approved by EPA on 12/18/2003 and by the SWCB on 12/02/2004. The segment should be classified as Category 4A for shellfish consumption.

Headly Cove	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:		0.023	

Sources:

Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A34E-05-SF2** **Mill Creek and the Coan River**

Location: Described in VDH Notice and Description of Shellfish Condemnation Number 145I, 2/25/1997

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /

VA Category: Fecal Coliform / 4A

Fecal Coliform / 5B

Portion of VDH-DSS Condemnation Notice 8-214D, 2/17/2005

Mill Creek and the upstream most portion of the Coan River were assessed as impaired of the Shellfish Use in 1998 because of VDH SFC 145I, 2/25/1997. The impairment has expanded in several assessment cycles. However only the original segment was included in "Coan River Watershed Total Maximum Daily Load (TMDL) Report for Six Shellfish Areas", which was completed during the 2006 cycle and approved by EPA on 12/18/2003 and by the SWCB on 12/02/2004. The segment should be classified as Category 4A for shellfish consumption.

Mill Creek and the Coan River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	0.453		

Sources:

Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A34E-06-SF** **Fountain Cove**

Location: Tidal limit to mouth at Hull Creek

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH-DSS condemnation 009-142B, 3/16/2006

A portion of Fountain Cove was initially listed as impaired of the Shellfish Use in the 2006 cycle because of VDH-DSS Shellfish Condemnation 141B, 12/22/2004.

During the 2008 cycle, the condemnation expanded and merged with Hull Creek. This segment is the Fountain Cove portion of condemnation 009-142B, 3/16/2006

Fountain Cove	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.087		

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A34E-07-SF** **Cod Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation Number 009-141A, 3/16/2006

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS Shellfish Condemnation 141A, 3/16/2006

Segment extended in 2006 and 2008

Cod Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.115		

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A34E-08-SF** **Cod Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation Number 009-141B, 3/16/2006

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS Shellfish Condemnation 141B, 3/16/2006

Size increased in 2008 cycle.

Cod Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.079		

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A34E-09-SF** **Presley Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 009-141C, 3/16/2006

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS Shellfish Condemnation 141C, 3/16/2006

Size increased during the 2008 cycle.

Presley Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.334		

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A34E-10-SF** **Bridgeman Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation Number 142A, 3/16/2006

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS Shellfish Condemnation 009-142A, 3/16/2006

Sq. mileage adjusted in 2006 although area did not change

Bridgeman Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.045		

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A34E-12-SF** **Hull Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 009-142B, 3/16/2006, excluding Fountain Cove (see A34E-06-SF)

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH-DSS Condemnation Notice 009-142B, 3/16/2006

A portion of Hull Creek was listed as impaired of the Shellfish Use in the 1998 cycle because of VDH-DSS Shellfish Condemnation 142A, 1/31/1997.

During the 2008 cycle, the condemnation expanded and merged with the impairment on Fountain Cove. This segment is the Hull Creek portion of condemnation 009-142B, 3/16/2006

Hull Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:		0.439	

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A34E-13-SF** **Rogers Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 142C, 3/16/2006

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS Shellfish Condemnation 009-142C, 3/16/2006

Size increased in 2008 cycle.

Rogers Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
			0.035

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A34E-14-BAC** **Cubitt Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation Number 168, 4/27/1989

City / County: Northumberland Co.

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

The segment was listed for the Recreation Use in 2004 due to a fecal coliform violation rate of 3/20 at 1ACUT000.58, which is located at the end of Route 777. The TMDL is due in 2016. There has been no additional bacteria monitoring since 2001, therefore the impairment is carried over.

Cubitt Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			
			0.227

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A34E-14-SF** **Cubitt Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation Number 168, 4/27/1989

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS Shellfish Condemnation 168, 4/27/1989
Shellfish TMDL due in 2010

Cubitt Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			0.227

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A34E-15-SF** Little Wicomico River: Cod Creek

Location: Described in VDH Notice and Description of Shellfish Condemnation Number 105B, 6/10/1997

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 4A

Portion of VDH Shellfish Condemnation 010-105C, 7/8/2005

Cod Creek was assessed as impaired during the 1998 cycle because of VDH-DSS Shellfish Condemnation 105B, 6/10/1997.
This segment will be classified as Cat. 4A during the 2008 cycle.

Little Wicomico River: Cod Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	0.079		

Sources:
Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A34E-16-SF** Little Wicomico River

Location: Described in VDH Notice and Description of Shellfish Condemnation 105B, 6/10/1997

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 4A

Portion of VDH Shellfish Condemnation 010-105C, 7/8/2005

A segment of the Little Wicomico River was assessed as impaired in 1998 based on VDH SFC 105B 6/10/1997. During the 2004 cycle, the segment expanded b/c of VDH-DSS Condemnation Notice 105B, 6/21/2002. However, the 2003 TMDL only covered the original 1998 impairment, which will be classified as Cat. 4A. The TMDL for the expansion is due in 2016 (see fact sheet A34E-06-SF2).

Little Wicomico River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.206		

Sources:

Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A34E-16-SF2** **Little Wicomico River**

Location: Portion of VDH Notice and Description of Shellfish Condemnation 105A, 6/21/2002 not listed in 1998

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH Shellfish Condemnation 010-105C, 7/8/2005

A segment of the Little Wicomico River was assessed as impaired in 1998 based on VDH SFC105B 6/10/1997. During the 2004 cycle, the segment expanded due to VDH-DSS Condemnation Notice 105B, 6/21/2002. However, the 2003 TMDL only covered the original 1998 impairment, which will be classified as Cat. 4A. The TMDL for the expansion is due in 2016.

Little Wicomico River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:		0.259	

Sources:

Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A34E-17-SF** **Bridge Creek**

Location: Portion of VDH Notice and Description of Shellfish Condemnation 010-105D, 9/15/2004 not impaired in the 998 cycle

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH-DSS Condemnation Notice 010-105D, 7/8/2005

A small portion of the segment was listed in the 2006 cycle due to condemnation 010-105C, 9/15/2004. The segment expanded and merged during the 2008 cycle. This AU represents the portion of the 7/8/2005 condemnation which was not included in the 2003 TMDL.

Bridge Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:		0.182	

Sources:

Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A34E-18-SF** Bridge Creek

Location: Described in VDH Notice and Description of Shellfish Condemnation 010-105D, 9/15/2004

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 4A

Portion of VDH-DSS Condemnation Notice 010-105D, 7/8/2005

The segment was delisted in 2004 because the area was reopened for harvest, but was closed in the 9/15/2004 condemnation, so is considered impaired in the 2006 cycle. However, the segment received a fecal coliform allocation in the "Little Wicomico River Watershed TMDL for Three Shellfish Areas Listed Due to Bacteria Contamination" report which was approved by EPA on 12/18/2003. Therefore it will be considered Cat. 4A for shellfish consumption. Although the segment expanded and merged during the 2008 cycle, this AU represents only the portion of the condemnation which was included in the 2003 TMDL.

Bridge Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.088		

Sources:

Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A34E-21-SF** **Kingscote Creek**

Location: Described in VDH-DSS condemnation 008-213A, 2/10/2006

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS condemnation 8-213A, 2/10/2006

Segment expanded in 2008 cycle.

Kingscote Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.155		

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A34E-22-SF** **Wrights Cove**

Location: Described in VDH Notice and Description of Shellfish Condemnation 145B, 11/27/2002

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH Shellfish Condemnation 008-213C, 2/10/2006

Wrights Cove was considered impaired in 2004 because of VDH-DSS Shellfish Condemnation 145B, 11/27/2002. During the 2006 cycle, the Glebe Creek impairment was expanded and the segment is currently included as a portion of condemnation 008-213C, 2/10/2006

Wrights Cove	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	0.034		

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A34E-23-SF** **The Glebe**

Location: Described in VDH Notice and Description of Shellfish Condemnation 145A, 11/27/2002

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH Shellfish Condemnation 008-213C, 2/10/2006

The segment was considered impaired in 2004 because of VDH-DSS Shellfish Condemnation 145A, 11/27/2002. During the 2006 cycle, the Glebe Creek impairment was expanded and the segment is currently included as a portion of condemnation 008-213C, 2/10/2006

The Glebe	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:		0.048	

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A34E-25-SF** **Boathouse Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 008-214E, 2/17/2005

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH Shellfish Condemnation 008-214E, 2/17/2005

Size increased in 2008 cycle.

Boathouse Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.067		

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A34E-26-SF** **The Glebe**

Location: Described in VDH-DSS condemnation 008-213C, 2/10/2006 which is not otherwise included in VAP-A34E-01

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH Shellfish Condemnation 008-213C, 2/10/2006

A portion of Glebe Creek was initially assessed as impaired of the Shellfish Use due to VDH-DSS Condemnation Notice 145D, 2/25/1997. In the 2004 cycle, the segment was extended to match condemnation 145C, 11/27/2002. However, the 12/02/2004 TMDL was only performed on the 1998 portion. The Glebe shellfish condemnation was extended in 2006, as delineated in VDH-DSS condemnation 008-213B, 12/29/2003; the TMDL for this expanded area will be due in 2018. This area was reduced in the 2008 cycle and Section 008-213D, 2/10/2006 was split off.

The Glebe	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.218		

Sources:

Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A34E-26-SF2** **The Glebe**

Location: Described in VDH-DSS condemnation 008-213D, 2/10/2006

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH Shellfish Condemnation 008-213D, 2/10/2006

The Glebe shellfish condemnation was extended in 2006, as delineated in VDH-DSS condemnation 008-213B, 12/29/2003; the TMDL for this expanded area is due in 2018. This area was reduced in the 2008 cycle and Section 008-213D, 2/10/2006 was split off.

The Glebe	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:		0.022	

Sources:

Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A34E-28-SF** **Slough Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 010-105E, 7/8/2005

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS Condemnation Notice 010-105E, 7/8/2005

Slough Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:		0.037	

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A34E-29-SF** **Ellyson Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 010-105A, 7/8/2005

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS condemnation 010-105A, 7/8/2005

Ellyson Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			0.047

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A34E-30-SF** Little Wicomico River

Location: Described in VDH Notice and Description of Shellfish Condemnation 010-105B, 9/15/2004 not otherwise segmented

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH Shellfish Condemnation 010-105C, 7/8/2005

VDH Shellfish condemnation 010-105B, 9/15/2004 (now 010-105C, 7/8/2005) was expanded during the 2006 cycle. This AU only includes the 2006 expansion; the TMDL is due in 2018.

Little Wicomico River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	0.186		

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A34E-31-BAC** **Little Wicomico River**

Location: Described in VDH Notice and Description of Shellfish Condemnation 105A, 6/21/2002

City / County: Northumberland Co.

Use(s): Recreation

Cause(s) /
VA Category: Enterococcus / 5A

In the 2006 cycle, the upper tidal portion of the Little Wicomico River was considered impaired of the Recreation Use due to an enterococci violations 2/4 at 1ALIS004.20, which is located off the mouth of Spences Creek. The enterococci violation rate was 4/18 during the 2008 cycle.

Little Wicomico River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:			
			0.465

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A34E-32-SF**

Coan River

Location: Portion of VDH Notice and Description of Shellfish Condemnation Number 008-214D, 2/17/2005 not included on condemnation 145, 2/23/1997.

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /

VA Category: Fecal Coliform / 5B

Portion of VDH-DSS Condemnation Notice 008-214D, 2/17/2005

Headly Cove, Mill Creek and a portion of the Coan River were assessed as impaired of the Shellfish Use in 1998 because of VDH SFC 145H and 145I, 2/25/1997. During the 2004 cycle, the segments expanded and merged and are currently merged as shown on VDH SFC 008-214D, 2/17/2005. However the 12/18/2003 Coan River Shellfish TMDL report only addressed the original impairments. The closures first expanded during the 2004 cycle, therefore the TMDL for expanded areas is due in 2016.

Note: this expansion was included in VAP-A34E-05 and VAP-A34E-32 in the 2006 cycle. During the 2008 cycle, the impairments were merged.

Coan River

Shellfishing

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Fecal Coliform - Total Impaired Size by Water Type:

0.168

Sources:

Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A34E-33-SF** **Bridgemans Back Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 010-105B, 7/8/2005

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH Shellfish Condemnation 010-105B, 7/8/2005

Bridgemans Back Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			0.078

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A34E-34-SF** Little Wicomico River, Back Creek

Location: Portion of VDH Notice and Description of Shellfish Condemnation 010-105C, 7/8/2005 not included in condemnation 010-105C, 7/8/2005

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

Portion of VDH Shellfish Condemnation 010-105C, 7/8/2005

The condemnation has expanded during several cycles; this impairment addresses only the 2008 expansion, The TMDL for this downstream most segment is due in 2020.

Little Wicomico River, Back Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	0.184		

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A34E-35-SF** **The Glebe**

Location: VDH Notice and Description of Shellfish Condemnation 008-213B, 2/10/2006

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH Condemnation 008-213B, 2/10/2006

The Glebe	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:		0.033	

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A34E-36-SF** **Hack Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 009-161, 4/27/1989

City / County: Northumberland Co.

Use(s): Shellfishing

Cause(s) /
VA Category: Fecal Coliform / 5B

VDH-DSS condemnation 009-161, 4/27/1989

The segment was designated as a non-productive shellfish growing area by VDH-DSS in previous summaries, so the use had been considered removed. However, during the 2008 cycle, it was determined that VDH considers the water condemned, therefore a TMDL is needed.

Hack Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:		0.215	

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A34R-01-BAC** **Coan Mill Stream**

Location: From the confluence with the unnamed tributary at river mile 1.52 downstream to its tidal limit

City / County: Northumberland Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

In the 2002 cycle, Coan Mill Stream was assessed not supporting of the Aquatic Life use goal based on a fecal coliform violation rate of 6/20 at Route 360 (1ACON000.96).

During the 2008 cycle, the impairment converted to E. coli with a violation rate of 3/10 at 1ACON000.96. The original TMDL due date of 2014 is maintained.

The segment was revised to end at the tidal limit.

Coan Mill Stream	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			1.11

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **A34R-02-PH** Little Wicomico River

Location: The nontidal portion of Little Wicomico River.

City / County: Northumberland Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: pH / 5C

The nontidal portion of Little Wicomico River was initially considered not supporting the Aquatic Life Use during the 2006 cycle due to a pH violation rate of 2/11 at 1ALIS007.20, located at the Route 646 bridge. During the 2008 cycle, the violation rate increased to 3/13.

Little Wicomico River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			2.32

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B02R-01-BEN** **West Strait Creek**

Location: West Strait Creek from the headwaters downstream to its confluence with an unnamed tributary originating on Miracle Ridge. (Start Mile: 4.62 End Mile: 3.42 Total Impaired Size: 1.2 Miles)

City / County: Highland Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station 1ASTT003.54 (Impaired for VSCI).
Initial Listing Date: 1996

West Strait Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			1.17

Sources:

Municipal Point Source Non-Point Source
Discharges

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B02R-02-BEN** **Strait Creek**

Location: Strait Creek from its confluence with West Strait Creek downstream to the confluence of the South Branch Potomac River.
(Start Mile: 3.24 End Mile: 0.00 Total Impaired Size: 3.24 Miles)

City / County: Highland Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station 1ASTT000.72 (Impaired for benthics (VSCI) Initial Listing Date: 2002.

Strait Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			3.23

Sources:

Agriculture Channelization Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B02R-05-BAC** **South Branch Potomac River**

Location: South Branch Potomac River from the headwaters downstream to the VA/WV state line. (Start Mile: 10.16 End Mile: 0.00
Total Impaired Size: 10.16 Miles)

City / County: Highland Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coi bacteria WQS at stations: 1ASOA001.00 (4 violations of 12 samples for e-coli) and 1ASOA003.77 (2 violations of 12 samples of e-coli) Initial Listing Date: 2006

South Branch Potomac River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			10.17

Sources:

Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B02R-06-BAC** **Strait Creek**

Location: Strait Creek from the headwaters downstream to its confluence with the South Branch Potomac River. (Start Mile: 6.01 End Mile: 0.00 Total Impaired Size: 6.01 Miles)

City / County: Highland Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the violations of the e-coli bacteria WQS at stations 1ASTT000.02 (3 violations of 15 samples for e-coli) and 1ASTT004.26 (5 violations of 15 samples for e-coli). Initial Listing Date: 2006

Strait Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			5.99

Sources:

Agriculture Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B05R-02-BAC** Little Isaacs Creek

Location: Little Isaacs Creek from the Timber Ridge School STP downstream (including an unnamed tributary originating near Reynolds Store) to its confluence with Isaacs Creek. (Start Mile: 9.53 End Mile: 0.00 Total Impaired Size: 9.93 Miles)

City / County: Frederick Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station 1ALIG001.84 (2 violations of 11 samples for e-coli). Initial Listing Date: 2008

Little Isaacs Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			9.53

Sources:

Agriculture Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B06R-02-BAC** **Hogue Creek**

Location: Hogue Creek from the headwaters downstream to its confluence with Back Creek. (Start Mile: 16.76 End Mile: 0.00 Total Impaired Size: 16.76 Miles)

City / County: Frederick Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Fecal Coliform / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station 1AHOC006.23 (4 violations of 17 samples for e-coli). Initial Listing Date: 2002

Hogue Creek	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			16.55
Hogue Creek	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			16.55

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B06R-02-TEMP** **Hogue Creek**

Location: Hogue Creek from the headwaters downstream to its confluence with Back Creek. (Start Mile: 16.76 End Mile: 0.00 Total Impaired Size: 16.76 Miles)

City / County: Frederick Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 4C

This segment is impaired due to violations of the temperature WQS at station 1AHOC006.23 (10 violations of 41 samples for temperature). The temperature impairment listed was based on this unit carrying a Class V - Stockable Trout Water designation. By letter from the Virginia Department of Game and Inland Fisheries, this water is not considered a cold water fishery. The temperature impairment moved from Category 5A - Impaired and needing a TMDL to Category 4C - Impaired, not needing a TMDL due to natural conditions during the 2006 cycle. Initial Listing Date: 1998

Hogue Creek	Estuary	Reservoir	River
Aquatic Life	(Sq. Miles)	(Acres)	(Miles)
Temperature, water - Total Impaired Size by Water Type:			16.55

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B07R-01-BAC** Babbs Run

Location: Babbs Run from the headwaters downstream to its confluence with Back Creek. (Start Mile: 11.46 End Mile: 0.00 Total Impaired Size: 11.46 Miles)

City / County: Frederick Co.

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

The segment remains impaired based on violations of the fecal coliform WQS. No additional bacteria data is available in the 2008 cycle and the segment must carry the impaired designation from the 2004 and 2006 assessment cycles. Initial Listing Date: 2004

Babbs Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			11.46

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B08R-01-BAC** **Opequon Creek**

Location: Opequon Creek and its tributaries from the headwaters downstream to its confluence with Abrams Creek. (Start Mile: 57.47
End Mile: 32.66 Total Impaired Size: 24.81 Miles)

City / County: Frederick Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 4A

This segment is impaired due to violations of the e-coli bacteria WQS at stations: 1AOPE036.13 (11 violations of 32 samples for e-coli); 1AOPE044.17 (2 violations of 12 samples for fecal coliform, not assessed in 2008); 1AOPE-OPCS07-FOSR (2 violations of 12 samples for e-coli based on Level II Coli-Scan monitoring); 1AOPE-OPCS08-FOSR (6 violations of 11 samples for e-coli based on Level II Coli-Scan monitoring); 1AOPE-OPCS09-FOSR (11 violations of 12 samples for e-coli based on Level II Coli-Scan monitoring); 1AOPE-OPCS10-FOSR (7 violations of 11 samples for e-coli based on Level II Coli-Scan monitoring); 1AOPE-OPCS15-FOSR (5 violations of 11 samples for e-coli based on Level II Coli-Scan monitoring) Initial Listing Date: 2004; This segment is included in the EPA approved Opequon Creek bacteria TMDL. Federal TMDL ID # 20941

Opequon Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			24.81

Sources:

Municipal (Urbanized High Density Area)	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B09R-01-BAC** **Abrams Creek**

Location: Abrams Creek from the headwaters downstream to is confluence with Opequon Creek. (Start Mile: 10.8 End Mile: 0.00 Total Impaired Size: 10.8 Miles)

City / County: Frederick Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Fecal Coliform / 4A

This segment is impaired due to violations of the e-coli bacteria WQS at stations: 1AABR000.78 (3 violations of 23 samples for e-coli); 1AABR-OPCS11-FOSR (9 violations of 12 samples for e-coli based on Level II Coli-Scan data); 1AABR-OPCS12-FOSR (6 violations of 12 samples for e-coi based on Level II Coli-Scan data); 1AABR-OPCS16-FOSR (3 violations of 10 samples for e-coli based on Level II Coli-Scan data). Initial Listing Date: 1996; This segment is included in the EPA approved Abrams Creek bacteria TMDL. Federal TMDL ID # 17635

Abrams Creek	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			10.58

Abrams Creek	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			10.58

Sources:

- Municipal (Urbanized High Density Area)
- Wildlife Other than Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B09R-01-BEN** **Abrams Creek**

Location: Abrams Creek from the headwaters downstream to is confluence with Opequon Creek. (Start Mile: 10.8 End Mile: 0.00 Total Impaired Size: 10.8 Miles)

City / County: Frederick Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to violations of the General Standard for Benthics at station: 1AABR000.78 (Impaired for VSCI); Initial Listing Date: 1996; This segment is included in the EPA approved Abrams Creek benthic TMDL. Federal TMDL ID # 17636

Abrams Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			10.58

Sources:

Municipal (Urbanized High Density Area)

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B09R-02-BAC** **Opequon Creek**

Location: Opequon Creek from its confluence with Abrams Creek downstream to the VA/WV state line. (Start Mile: 32.66 End Mile: 23.56 Total Impaired Size: 9.1Miles)

City / County: Frederick Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Fecal Coliform / 4A

This segment is impaired due to violations of the e-coli bacteria WQS at stations: 1AOPE025.10 (6 violations of 24 samples for e-coli); 1AOPE031.26 (3 violations of 12 samples for e-coli); 1AOPE-OPCS02-FOSR (2 violations of 11 samples for e-coli based on Level II Coli-Scan data); 1AOPE-OPCS13-FOSR (4 violations of 10 samples for e-coli based on Level II Coli-Scan data). Initial Listing Date: 1996; This segment is part of the EPA approved Abrams/Opequon watershed TMDL. Federal TMDL ID # 20941

Opequon Creek	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			9.10

Opequon Creek	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			9.10

Sources:

Municipal (Urbanized High Wildlife Other than
Density Area) Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B09R-02-BEN** **Opequon Creek**

Location: Opequon Creek from its confluence with Abrams Creek downstream to the VA/WV state line. (Start Mile: 32.66 End Mile: 23.56 Total Impaired Size: 9.1Miles)

City / County: Frederick Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to violations of the General Standard for Benthics at station: 1AOPE029.61 (Impaired for VSCI).
Initial Listing Date: 1996; This segment is part of the EPA approved Abrams/Opequon watershed TMDL. Federal TMDL ID # 20160

Opequon Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			9.10

Sources:

Municipal (Urbanized High
Density Area)

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B09R-03-BAC** **Lick Run**

Location: Lick Run (also known as Hiatt Run) from its headwaters downstream to its confluence with Opequon Creek. (Start Mile: 8.85 End Mile: 0.00 Total Impaired Size: 8.85 Miles)

City / County: Frederick Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 4A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1ALIR000.95 (2 violations of 12 samples for e-coli); Initial Listing Date: 2006; This segment is included in the EPA approved TMDL for the Abrams/Opequon watershed. Federal TMDL ID # 20941

Lick Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			8.85

Sources:
Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B09R-04-BAC** **Redbud Run**

Location: Redbud Run and tributary from the headwaters downstream to its confluence with Opequon Creek. (Start Mile: 8.05 End Mile: 0.00 Total Impaired Size: 8.05 Miles)

City / County: Frederick Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to violations of the e-coli bacteria WQS at stations: 1ARED000.46 (4 violations of 9 samples for e-coli) and 1ARED-OPCS04-FOSR (2 violations of 11 samples for e-coli based on Level II Coli-Scan data). Initial Listing Date: 2004; The segment is included in the EPA approved Abrams/Opequon TMDL . Federal TMDL ID # 20941

Redbud Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			8.05
Redbud Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			8.05

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B09R-04-BEN** **Redbud Run**

Location: Redbud Run and tributary from the headwaters downstream to its confluence with Opequon Creek. (Start Mile: 8.05 End Mile: 0.00 Total Impaired Size: 8.05 Miles)

City / County: Frederick Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 1ARED000.46 (Impaired for VSCI).
Initial Listing Date: 2004

Redbud Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			8.05

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B10R-01-BEN** **Cockran Spring Branch**

Location: Cockran Spring Branch from the spring downstream to its confluence with Middle River. (Start Mile: .77 End Mile: 0.00 Total Impaired Size: .77 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

The benthic community at this site was not assessed during the 2008 cycle and the impaired status carries from previous assessments. This assessment unit is included in an EPA approved TMDL for Streams Impacted by Fish Farms. Initial Listing Date: 1996. Federal TMDL ID # 9461

Cockran Spring Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			0.77

Sources:

Aquaculture (Permitted)

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B10R-02-BAC** Middle River

Location: Middle River from the headwaters downstream to its confluence with Jennings Branch. (Start Mile: 69 End Mile: 46.66 Total Impaired Size: 22.34 Miles)

City / County: Augusta Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Fecal Coliform / 4A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BMDL060.48 (10 violations of 15 samples for e-coli). Intial Listing Date: 2004; This segment is included in the Middle River bacteria TMDL and is considered category 4A Impaired - EPA Approved TMDL. Federal TMDL ID # 7683

Middle River	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			19.00
Middle River	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			6.66

Sources:

Agriculture

Non-Point Source

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B10R-02-BEN** **Middle River**

Location: Middle River from the headwaters downstream to its confluence with Edison Creek. (Start Mile: 69 End Mile: 53.29 Total Impaired Size: 15.71Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to violations of the General Standard for Benthics at stations: 1BMDL066.05 (Impaired for VSCI); 1BMDL066.47 (Impaired for VSCI); 1BMDL066.84 (Impaired for VSCI). Initial Listing Date: 1998; This segment is included in the Middle River benthic TMDL and is considered category 4A Impaired - EPA Approved TMDL. Federal TMDL ID # 7683

Middle River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			15.68

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B10R-03-BAC** **Back Creek**

Location: Back Creek from the headwaters downstream to its confluence with Middle River. (Start Mile: 8.36 End Mile: 0.00 Total Impaired Size: 8.36 Miles)

City / County: Augusta Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Fecal Coliform / 4A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BBAK001.74 (5 violations of 5 samples for e-coli). Initial Listing Date: 2004; The segment is considered category 4A Impaired - EPA Approved TMDL since it is within the geographical region covered by the EPA approved Middle River Bacteria TMDL. Federal TMDL ID # 7683

Back Creek	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			8.36
Back Creek	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			8.36

Sources:

Non-Point Source Wildlife Other than Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B10R-04-BAC** Edison Creek

Location: Edison Creek from the headwaters downstream to its confluence with Middle River. (Start Mile: 8.62 End Mile: 0.00 Total Impaired Size: 8.62 Miles)

City / County: Augusta Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BEDN003.67 (3 violations of 5 samples for e-coli). Intial Listing Date: 2004; The segment is considered category 4A Impaired - EPA Approved TMDL since it is within the geographical region covered by the EPA approved Middle River Bacteria TMDL. Federal TMDL ID # 7683

Edison Creek	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			8.62
Edison Creek	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			8.62

Sources:

Non-Point Source Wildlife Other than Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B11R-01-BEN** Falls Hollow

Location: Falls Hollow from the headwaters downstream to its confluence with Buffalo Branch. (Start Mile: 3.63 End Mile: 0.00 Total Impaired Size: 3.63 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 4C

Forest Service Site 1003 had a moderately impaired rating in the 2004 cycle. No surveys are within the 2008 window and the impairment was determined to be natural causes. Initial Listing Date: 2004.

Falls Hollow	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			3.63

Sources:

Drought-related Impacts

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B12R-01-BAC** **Lewis Creek**

Location: Lewis Creek south of the Staunton City boundary near the power line crossing downstream to its confluence with Middle River. (Start Mile: 9.54 End Mile: 0.00 Total Impaired Size: 9.54 Miles)

City / County: Augusta Co. Staunton City

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

This segment is impaired due to violations of the e-coli bacteria WQS at stations: 1BLEW002.91 (9 violations of 18 samples for e-coli); 1BLEW006.95 (8 violations of 12 samples for e-coli); 1BLEW008.24 (5 violations of 10 samples for e-coli); 1BLEW-GA19-FOSR (6 violations of 7 samples for e-coli based on Level II Coli-Scan data); 1BLEW-GA20-FOSR (3 violations of 5 samples for e-coli based on Level II Coli-Scan data). Initial Listing Date: 2004; This segment has an EPA Approved TMDL for bacteria (e-coli). Federal TMDL ID # 7677

Lewis Creek

Recreation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

9.74

Sources:

Municipal (Urbanized High
Density Area)

Non-Point Source

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B12R-01-BEN** **Lewis Creek**

Location: Lewis Creek south of the Staunton City boundary near the power line crossing downstream to its confluence with Middle River. (Start Mile: 9.54 End Mile: 0.00 Total Impaired Size: 9.54 Miles)

City / County: Augusta Co. Staunton City

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to violations of the General Standard for Benthics at station: 1BLEW006.95 (Impaired for VSCI).
Initial Listing Date: 1996; This segment has an EPA Approved TMDL for benthics. Federal TMDL ID # 7676

Lewis Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			9.74

Sources:

Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B12R-01-PCB** **Lewis Creek**

Location: Lewis Creek south of the Staunton City boundary near the power line crossing downstream to its confluence with Middle River. (Start Mile: 9.54 End Mile: 0.00 Total Impaired Size: 9.54 Miles)

City / County: Augusta Co. Staunton City

Use(s): Fish Consumption

Cause(s) /

VA Category: PCB in Fish Tissue / 5A

This segment is impaired due to violations of Fish Tissue and Sediment screening values at stations: 1BLEW005.24 (01 Hg, HMW PAH, PHH, FTH, Pry, ATH Ben, Chrys, Chl 01 Fish PCB 2 sp 2005 Fish PCB) and 1BLEW006.64 (1 samples exceeded the PEC of 128 for Lead (172)). Initial Listing Date: 2004.

Lewis Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
PCB in Fish Tissue - Total Impaired Size by Water Type:			9.74

Sources:

Inappropriate Waste Municipal (Urbanized High
Disposal Density Area)

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B13R-01-BAC** **Moffett Creek**

Location: Moffett Creek from the headwaters downstream to its confluence with Middle River. (Start Mile: 8.55 End Mile: 0.00 Total Impaired Size: 8.55 Miles)

City / County: Augusta Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BMFT001.43 (4 violations of 10 samples for e-coli). Initial Listing Date: 2004; This segment is included in the EPA approved Moffetts Creek bacteria TMDL and is considered a category 4A - Impaired - EPA Approved TMDL. Federal TMDL ID # 7679

Moffett Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			9.54
Moffett Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			9.54

Sources:

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B13R-01-BEN** **Moffett Creek**

Location: Moffett Creek from the headwaters downstream to its confluence with Middle River. (Start Mile: 8.55 End Mile: 0.00 Total Impaired Size: 8.55 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to violations of the General Standard for Benthics at station: 1BMFT005.11 (Impaired for VSCI). Initial Listing Date: 1996; This segment is included in the EPA approved Moffetts Creek benthic TMDL and is considered a category 4A - Impaired - EPA Approved TMDL. Federal TMDL ID # 7678

Moffett Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			9.54

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B13R-02-BAC** Elk Run

Location: Elk Run from the headwaters downstream to its confluence with Moffett Creek. (Start Mile: 4 End Mile: 0.00 Total Impaired Size: 4 Miles)

City / County: Augusta Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BEKR000.25 (6 violations of 11 samples for e-coli). Initial Listing Date: 2004; This segment lies within the geographic area of the EPA approved Moffatts Creek Bacteria TMDL and thus is considered Category 4A - Impaired - EPA Approved TMDL. Federal TMDL ID # 7679

Elk Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			4.00
Elk Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			4.00

Sources:

Agriculture Non-Point Source Wildlife Other than Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B13R-03-BEN** Tunnel Hollow X-trib

Location: Tunnel Hollow X-trib from the headwaters downstream to its confluence with Tunnel Hollow. (Start Mile: .2 End Mile: 0.00
Total Impaired Size: .2 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4C

This segment is impaired due to violations of the General Standard for Benthics at station: USFS 2021. This assessment unit is located within the George Washington National Forest was deemed to be impaired due to natural conditions (intermittent flow at sampling site) by the U.S. Forest Service biologist utilizing the U.S. Forest Service benthic survey at site 2021. Initial Listing Date: 2004.

Tunnel Hollow X-trib	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			0.20

Sources:

Drought-related Impacts

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B14R-01-BAC** **Christians Creek**

Location: Christians Creek from the headwaters downstream to its confluence with Middle River. (Start Mile: 31.56 End Mile: 0.00
Total Impaired Size: 31.56 Miles)

City / County: Augusta Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to violations of the e-coli bacteria WQS at stations: 1BCST000.13 (2 violations of 11 samples for e-coli); 1BCST007.42 (6 violations of 12 samples for e-coli); 1BCST012.32 (8 violations of 12 samples for e-coli); 1BCST016.48 (5 violations of 10 samples for e-coli); 1BCST-GA29-FOSR (2 violations of 5 samples for e-coli based on Level II Coli-Scan data). Initial Listing Date: 1996; This segment is part of the EPA approved Christians Creek bacteria TMDL for bacteria. Federal TMDL ID # 9480

Christians Creek	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			31.56
Christians Creek	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			31.56

Sources:

Municipal (Urbanized High Density Area)	Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B14R-01-BEN** **Christians Creek**

Location: Christians Creek from the headwaters downstream to its confluence with Middle River. (Start Mile: 31.56 End Mile: 0.00
Total Impaired Size: 31.56 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to violations of the General Standard for Benthics at station 1BCST007.42. Initial Listing Date 1996. Federal TMDL ID # 24514

Christians Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			31.56

Sources:

Municipal (Urbanized High Density Area)	Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B14R-02-BAC** Folly Mills Creek

Location: Folly Mills Creek and tributary from the headwaters downstream to its confluence with Christians Creek. (Start Mile: 13.16
End Mile: 0.00 Total Impaired Size: 13.16 Miles)

City / County: Augusta Co.

Use(s): Recreation

Cause(s) /

VA Category: Fecal Coliform / 4A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BFMC001.61 (4 violations of 12 samples for fecal coliform) and 1BFMC-GA31-FOSR (1 violation of 4 samples for e-coli based on Level II Coli-Scan data). Initial Listing Date: 2004; This segment is within the geographic boundary of the EPA approved Christians Creek bacteria TMDL and is considered a Category 4A - Impaired - EPA Approved TMDL. Federal TMDL ID # 17969

Folly Mills Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			13.16

Sources:

Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B14R-03-BAC** **Long Meadow Run**

Location: Long Meadow Run and tributary from the headwaters downstream to its confluence with Christians Creek. (Start Mile: 10.06
End Mile: 0.00 Total Impaired Size: 10.06 Miles)

City / County: Augusta Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BMDW000.18 (4 violations of 12 samples for e-coli); 1BLMR-GA27-FOSR (3 violations of 3 samples for e-coli based on Level II Coli-Scan data). Initial Listing Date: 2006;
This segment is located within the geographical boundary of the EPA approved Christians Creek bacteria TMDL and is considered to be Category 4A - Impaired - EPA Approved TMDL. Federal TMDL ID # 17969

Long Meadow Run	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			10.06

Sources:

Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B14R-03-TEMP** **Long Meadow Run**

Location: Long Meadow Run and tributary from the headwaters downstream to its confluence with Christians Creek. (Start Mile: 10.06
End Mile: 0.00 Total Impaired Size: 10.06 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5C

This segment is impaired due to violations of the natural trout temperature WQS (20 C) at station: 1BMDW000.18 (4 violations of 13 samples for temperature). Initial Listing Date: 2006. The aquatic life use is impaired due to violations of the temperature standard and is Category 5C due to suspected natural conditions.

Long Meadow Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			10.06

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B15R-01-BAC** **Middle River**

Location: Middle River from the quarry discharge west of Franks Mill downstream to its confluence with North River. (Start Mile: 43.06
End Mile: 0.00 Total Impaired Size: 43.06 Miles)

City / County: Augusta Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Fecal Coliform / 4A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BMDL001.83 (6 violations of 27 samples for e-coli) and 1BMDL009.23 (3 violations of 10 samples for e-coli). Initial Listing Date: 1996; This segment is included in the EPA approved Middle River bacteria TMDL. This TMDL does not have a Federal TMDL ID number assigned as yet.

Middle River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			43.05

Middle River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			17.56

Sources:

Agriculture

Non-Point Source

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B15R-02-BAC** Polecat Draft

Location: Polecat Draft from the headwaters downstream to its confluence with Middle River. (Start Mile: 7.42 End Mile: 0.00 Total Impaired Size: 7.42 Miles)

City / County: Augusta Co.

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 4A

This segment remains impaired due to violations of the fecal coliform and e-coli WQS. No additional data is available in 2008.
Initial Listing Date: 1996; This segment is included in the EPA approval Polecat Draft TMDL for bacteria. Federal TMDL ID # 7683

Polecat Draft	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			7.42

Sources:

Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B16L-01-PH** **Elkhorn Lake**

Location: Elkhorn Lake (Total Impaired Size: 50.7 Acres)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: pH / 5A

This lake is impaired due to violations of the pH WQS at station: 1BNTH045.36 (8 violations of 44 samples for pH). Initial Listing Date: 2006.

Elkhorn Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			50.70

Sources:

Atmospheric Deposition -
Acidity

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B16L-02-PH** **Staunton Dam Lake**

Location: Staunton Dam Lake (Total Impaired Size: 20.6 Acres)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: pH / 5A

This lake is impaired due to violations of the pH WQS at station: 1BNTH043.48 (33 violations of 59 samples for pH). Initial Listing Date: 2006.

Staunton Dam Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			20.60

Sources:

Atmospheric Deposition -
Acidity

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B16R-01-PH** **North River**

Location: North River from the headwaters downstream to its confluence with Freemason Run. (Start Mile: 55.03 End Mile: 33.23 Total Impaired Size: 21.80 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: pH / 5A

This segment is impaired due to violations of the pH WQS at stations: 1BNTH036.96 (This assessment was in the 2004 cycle with 11 violations of 23 samples for pH. No additional data is in the 2008 cycle.) and 1BNTH046.75 (2 violations of 3 samples for pH). Initial Listing Date: 2002.

North River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			21.80

Sources:

Atmospheric Deposition -
Acidity

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B17R-01-BAC** **North River**

Location: North River from its confluence with Briery Branch downstream to its confluence with South River. (Start Mile: 24.96 End Mile: 0.00 Total Impaired Size: 24.96 Miles)

City / County: Augusta Co. Rockingham Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment remains impaired due to violations of the fecal coliform bacteria WQS at station: 1BNTH022.25 (3 violations of 12 samples for fecal coliform) No e-coli data are available in 2008. Initial Listing Date: 2002; This segment is included in the EPA approved North River TMDL for bacteria. Federal TMDL ID # 23366.

North River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			15.70
North River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			24.53

Sources:

Agriculture Non-Point Source Wildlife Other than Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B17R-02-BAC** **Thorny Branch**

Location: Thorny Branch and tributaries from the headwaters downstream to its confluence with North River. (Start Mile: 7.11 End Mile: 0.00 Total Impaired Size: 7.11 Miles)

City / County: Augusta Co. Rockingham Co.

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 4A

This segment remains impaired due to violations of the fecal coliform bacteria WQS at station: 1BTRN000.38 (6 violations of 11 samples for fecal coliform). No e-coli data are available in 2008. Initial Listing Date: 2004; This segment is included in the EPA approved North River TMDL for bacteria. Federal TMDL ID # 23366.

Thorny Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			7.11

Sources:
Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B18R-01-BEN** **Wolf Run**

Location: Wolf Run from the headwaters downstream to its confluence with Briery Branch. (Start Mile: 3.11 End Mile: 0.00 Total Impaired Size: 3.11 Miles)

City / County: Augusta Co. Rockingham Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at stations: USFS 2019 (MAIS-Impaired) and USFS 2042 (MAIS-Slightly Impaired). Initial Listing Date: 2002.

Wolf Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			3.11

Sources:

Atmospheric Deposition -
Acidity

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B18R-01-PH** **Wolf Run**

Location: Wolf Run from the headwaters downstream to its confluence with Briery Branch. (Start Mile: 3.11 End Mile: 0.00 Total Impaired Size: 3.11Miles)

City / County: Augusta Co. Rockingham Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: pH / 5A

This segment is impaired due to violations of the pH WQS at station: UVA VT56 (12 violations of 12 samples for pH). Intial Listing Date: 2006.

Wolf Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			3.11

Sources:

Atmospheric Deposition -
Acidity

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B18R-02-PH** **Briery Branch**

Location: Briery Branch from the headwaters downstream to its confluence with Hone Quarry Run. (Start Mile: 13.01 End Mile: 6.00
Total Impaired Size: 7.01Miles)

City / County: Augusta Co. Rockingham Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: pH / 5C

This segment remained impaired due to previous violations of the pH WQS at station: 1BBRY006.94 (1 violation of 3 samples for pH). This assessment unit had 2 pH minimum standard violations out of 9 samples for the 2006 assessment window at station 1BBRY006.94. No additional data is available for the 2008 assessment cycle. In the 2002 assessment window, this segment was listed as impaired and carries forward to this cycle. The Category 5C - Impaired - No TMDL due to natural conditions carries from the 2006 assessment. Initial Listing Date: 2002.

Briery Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			7.01

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B18R-04-BAC** Beaver Creek

Location: Beaver Creek from the headwaters downstream to its confluence with Briery Branch. (Start Mile: 5.76 End Mile: 0.00 Total Impaired Size: 5.76 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Fecal Coliform / 4A

This segment unit will remain impaired recreational use in the 2008 cycle based on best professional judgement. The data indicate improved conditions, but one site is still insufficient for e-coli due to the 1 violation of 4 samples (1BBVR000.84). Initial Listing Date: 2002. This segment is included in the EPA approved Beaver Creek bacteria TMDL. Federal TMDL ID# 24517.

Beaver Creek	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			5.76
Beaver Creek	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			5.76

Sources:

Non-Point Source Wildlife Other than Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B18R-04-TEMP** Beaver Creek

Location: Beaver Creek from the headwaters downstream to its confluence with Briery Branch. (Start Mile: 5.76 End Mile: 0.00 Total Impaired Size: 5.76 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 4C

This segment is impaired due to violations of the temperature WQS at station: 1BBVR003.60 (3 violations of 21 samples for temperature). Initial Listing Date: 2002; Temperature readings used to determine this assessment unit as impaired were based on readings at station 1BBVR003.60 and has been determined to be natural. By letter from the Virginia Department of Game & Inland Fisheries, this stream is considered a warm water stream and should not be considered Class V - Stockable Trout. This segment becomes Category 4C - Impaired, but not needing a TMDL due to natural conditions for the 2006 cycle. These trout designations will be reviewed during the Virginia Triennial Review process to correct the designation.

Beaver Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			5.76

Sources:

Natural Conditions - Water
Quality Standards Use
Attainability Analyses
Needed

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B18R-05-BAC** **Briery Branch**

Location: Briery Branch from its confluence with Beaver Creek downstream to its confluence with North River. (Start Mile: 1.47 End Mile: 0.00 Total Impaired Size: 1.47 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

This segment remains impaired due to violations of the fecal coliform bacteria WQS at station: 1BBRY001.22 (3 violations of 12 samples for fecal coliform). No e-coli data are available in 2008. Initial Listing Date: 2004.

Briery Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			1.47

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B18R-06-PH** **Rocky Run**

Location: Rocky Run from the headwaters downstream to its confluence with Briery Branch. (Start Mile: 1.95 End Mile: 0.00 Total Impaired Size: 1.95 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: pH / 5A

This segment is impaired due to violations of the pH WQS at station: UVA RH33 (12 violations of 12 samples for pH). Initial Listing Date: 2006.

Rocky Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			1.95

Sources:

Atmospheric Deposition -
Acidity

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B18R-07-PH** **Union Springs Run**

Location: Union Springs Run from the headwaters downstream to its confluence with Red Banks Run. (Start Mile: 3.65 End Mile: 0.00
Total Impaired Size: 3.65 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: pH / 5A

This segment is impaired due to violations of the pH WQS at station: UVA RH34 (12 violations of 12 samples for pH). Initial Listing Date: 2006.

Union Springs Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			3.65

Sources:

Atmospheric Deposition -
Acidity

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B19R-01-BAC** **Mossy Creek**

Location: Mossy Creek from the headwaters downstream to its confluence with North River. (Start Mile: 10.09 End Mile: 0.00 Total Impaired Size: 10.09 Miles)

City / County: Augusta Co. Rockingham Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BMSS001.35 (6 violations of 18 samples for e-coli). Initial Listing Date: 1996; The segment is included in the EPA approved Mossy Creek TMDL for bacteria. Federal TMDL ID # 1585

Mossy Creek	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			10.09
Mossy Creek	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			10.09

Sources:

Agriculture Non-Point Source Wildlife Other than Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B19R-01-BEN** **Mossy Creek**

Location: Mossy Creek from the headwaters downstream to its confluence with North River. (Start Mile: 10.09 End Mile: 0.00 Total Impaired Size: 10.09 Miles)

City / County: Augusta Co. Rockingham Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to violations of the General Standard for Benthics at station: 1BMSS003.01 (Impaired for VSCI). Initial Listing Date 1998; This segment is included in the EPA approved Mossy Creek TMDL for benthics. Federal TMDL ID # 10673

Mossy Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			10.09

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B20L-01-PH** **Switzer Lake**

Location: Switzer Lake (Total Impaired Size: 99.49 Acres)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: pH / 5A

This lake is impaired due to violations of the pH WQS at station: 1BSKD003.18 (41 violations of 118 samples for pH). Initial Listing Date: 2006.

Switzer Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			99.49

Sources:

Atmospheric Deposition -
Acidity

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B20L-01-TEMP** **Switzer Lake**

Location: Switzer Lake (Total Impaired Size: 99.49 Acres)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5A

This lake is impaired due to violations of the temperature WQS at station: 1BSKD003.18 (16 violations of 132 samples for temperature). Initial Listing Date: 2006.

Switzer Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			99.49

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B20R-01-PH** Dry River

Location: Dry River from its confluence with Low Place Run downstream to the Route 613 bridge at Lilly. (Start Mile: 20.46 End Mile: 6.47 Total Impaired Size: 13.99 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: pH / 5A

This segment is impaired due to violations of the pH WQS at station: 1BDUR016.66 (5 violations of 12 samples for pH). Initial Listing Date: 2002.

Dry River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			13.99

Sources:

Atmospheric Deposition -
Acidity

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B20R-02-BEN** Skidmore Fork

Location: Skidmore Fork from the headwaters downstream to the upper end of Switzer Lake. (Start Mile: 8.43 End Mile: 3.02 Total Impaired Size: 5.41Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 4C

This segment is impaired due to violations of the General Standard for Benthics at station: USFS 2001 (MAIS-Impaired). Initial Listing Date: 2006; USFS believes this is a drought related impairment from the 1998-2002 regional drought and a natural conditions.

Skidmore Fork	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			5.40

Sources:

Drought-related Impacts

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B21R-01-BAC** Dry River

Location: Dry River from the Route 613 bridge at Lilly downstream to its confluence with North River. (Start Mile: 6.32 End Mile: 0.00
Total Impaired Size: 6.32 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Fecal Coliform / 4A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BDUR000.02 (11 violations of 48 samples for e-coli). Initial Listing Date: 1998; This segment is included in the EPA approved Dry River bacteria TMDL. Federal TMDL ID # 1492

Dry River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			6.32
Dry River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			6.32

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B21R-02-BAC** **Honey Run**

Location: Honey Run from the headwaters downstream to its confluence with Dry River. (Start Mile: 4.19 End Mile: 0.00 Total Impaired Size: 4.19 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 4A

This segment remains impaired based on data in the 2004 cycle for violations of the fecal coliform bacteria WQS. As no data is in the 2008 cycle, this status will carry to 2008. Initial Listing Date: 2004. This segment is included in the geographical boundary of the EPA approved Dry River TMDL for bacteria and is listed as Category 4A - Impaired - EPA Approved TMDL. Federal TMDL ID # 7686

Honey Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			4.15

Sources:

Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B22R-01-BAC** **Muddy Creek**

Location: Muddy Creek from the headwaters downstream to its confluence with Dry River. (Start Mile: 10.31 End Mile: 0.00 Total Impaired Size: 10.31 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to violations of the e-coli bacteria WQS at stations: 1BMDD000.40 (34 violations of 47 samples for e-coli) and 1BMDD005.81 (23 violations of 38 samples for e-coli). Initial Listing Date: 1996; This segment is included in the EPA approved Muddy Creek bacteria TMDL. Federal TMDL ID # 1589

Muddy Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			10.31
Muddy Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			10.31

Sources:

Agriculture Non-Point Source Wildlife Other than Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B22R-01-BEN** **Muddy Creek**

Location: Muddy Creek from the headwaters downstream to its confluence with Dry River. (Start Mile: 10.31 End Mile: 0.00 Total Impaired Size: 10.31 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to violations of the General Standard for Benthics at station: 1BMDD002.10 (Impaired for VSCI). Initial Listing Date: 1996; This unit is included in the EPA approved Muddy Creek benthic TMDL. Federal TMDL ID # 7689

Muddy Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			10.31

Sources:

Agriculture Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B22R-01-NO3** **Muddy Creek**

Location: Muddy Creek from the 5 mile upper limit of the PWS designation for the Bridgewater Public Water Intake downstream to its confluence with Dry River. (Start Mile: 2.17 End Mile: 0.00 Total Impaired Size: 2.17 Miles)

City / County: Rockingham Co.

Use(s): Public Water Supply

Cause(s) /

VA Category: Nitrogen, Nitrate / 4A

This segment is impaired due to violations of the nitrate drinking water standard in PWS designation waters at station: 1BMDD000.40 (2 violations). Initial Listing Date: 2004; This assessment unit is included in the EPA approved Muddy Creek nitrate TMDL. Federal TMDL ID # 7688

Muddy Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Public Water Supply			
Nitrogen, Nitrate - Total Impaired Size by Water Type:			2.17

Sources:

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B23R-01-BEN** **North River**

Location: North River from its confluence with Naked Creek downstream to its confluence with South River. (Start Mile: 16.32 End Mile: 0.00 Total Impaired Size: 16.32 Miles)

City / County: Augusta Co. Rockingham Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to violations of the General Standard for Benthics at station: 1BNTH014.48 (Impaired for VSCI). Initial Listing Date: 1996; The aquatic life impairment based on the impaired benthic status is now part of an EPA approved stressor report to move from 5A to 4A - Impaired - EPA approved TMDL (Letter from EPA dated 2/3/06). Federal TMDL ID numbers have not been issued for these approvals as yet.

North River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			15.70

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B24R-01-BAC** **Long Glade Creek**

Location: Long Glade Creek from the headwaters downstream to its confluence with North River. (Start Mile: 10.71 End Mile: 0.00
Total Impaired Size: 10.71 Miles)

City / County: Augusta Co. Rockingham Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BLGC000.96 (7 violations of 10 samples for e-coli). Initial Listing Date: 2004. This segment is included in the EPA approved Mossy Creek/Long Glade Creek bacteria TMDL. Federal TMDL ID # 19708

Long Glade Creek	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			10.71
Long Glade Creek	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			10.71

Sources:

Agriculture Non-Point Source Wildlife Other than Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B25R-01-BAC** **Cooks Creek**

Location: Cooks Creek from the headwaters downstream to its confluence with North River. (Start Mile: 13.31 End Mile: 0.00 Total Impaired Size: 13.31 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Fecal Coliform / 4A

This segment is impaired due to violations of the e-coli bacteria WQS at stations: 1BCKS003.10 (34 violations of 26 samples for e-coli); 1BCKS007.71 (10 violations of 11 samples for e-coli); 1BCKS-8-FBRG (7 violations of 9 samples for e-coli based on Level II Coli-Scan data); 1BCKS008.29 (12 violations of 14 samples for e-coli). Initial Listing Date: 1996; This segment is included in the EPA approved Cooks Creek bacteria TMDL. Federal TMDL ID # 9473

Cooks Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			13.31

Cooks Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			13.31

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B25R-01-BEN** **Cooks Creek**

Location: Cooks Creek from the headwaters downstream to its confluence with North River. (Start Mile: 13.31 End Mile: 0.00 Total Impaired Size: 13.31 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to violations of the General Standard for Benthics at stations: 1BCKS001.03 (Impaired for VSCI) 1BCKS003.04 (Impaired for VSCI). Initial Listing Date: 1996; This segment is included in the EPA approved Cooks Creek/Blacks Run benthic TMDL. Federal TMDL ID # 9509 & 9510

Cooks Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			13.31

Sources:

Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B25R-02-BAC** Silver Creek

Location: Silver Creek from the headwaters downstream to its confluence with Sunset Heights Branch. (Start Mile: .19 End Mile: 0.00
Total Impaired Size: .19 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 4A

This segment remains impaired due to violations of the fecal coliform WQS during the 2004 cycle. No new data are in the 2008 cycle, thus the impaired status carries forward. Initial Listing Date: 2002; This segment is included in the EPA approved Cooks Creek bacteria TMDL. Federal TMDL ID # 9470

Silver Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			0.19

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B25R-03-BAC** **Sunset Heights Branch**

Location: Sunset Heights Branch from the headwaters downstream to its confluence with Cooks Creek. (Start Mile: 4.31 End Mile: 0.00 Total Impaired Size: 4.31 Miles)

City / County: Harrisonburg City Rockingham Co.

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 4A

This segment remains impaired due violations of the fecal coliform WQS during the 2004 cycle. No new data is in the 2008 cycle, thus the impaired status carries forward. Initial Listing Date: 2004; This segment is included in the EPA approved Cooks Creek bacteria TMDL. Federal TMDL ID # 9470

Sunset Heights Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			4.31

Sources:

Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B26R-01-BAC** **Blacks Run**

Location: Blacks Run from the headwaters downstream to its confluence with Cooks Creek. (Start Mile: 10.73 End Mile: 0.00 Total Impaired Size: 10.73 Miles)

City / County: Harrisonburg City Rockingham Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Fecal Coliform / 4A

This segment is impaired due to violations of the e-coli bacteria WQS at stations: 1BBLK000.38 (26 violations of 26 samples for e-coli); 1BBLK005.62 (8 violations of 18 samples for e-coli); 1BBLK-11-FBRG (5 violations of 11 samples for e-coli based on Level II Coli-Scan data); 1BBLK-13-FBRG (5 violations of 13 samples for e-coli based on Level II Coli-Scan data); 1BBLK-15-FBRG; 1BBLK-1A-FBRG (11 violations of 12 samples for e-coli based on Level II Coli-Scan data); 1BBLK-3-FBRG (5 violations of 13 samples for e-coli based on Level II Coli-Scan data); 1BBLK-4-FBRG (1 violation of 8 samples for e-coli based on Level II Coli-Scan data); 1BBLK-6-FBRG (11 violations of 13 samples for e-coli based on Level II Coli-Scan data); 1BBLK-7-FBRG (1 violation of 9 samples for e-coli based on Level II Coli-Scan data); 1BBLK-9A-FBRG; 1BBLK-9-FBRG (14 violations of 15 samples for e-coli based on Level II Coli-Scan data); 1BBLK-14-FBRG (5 violations of 12 samples for e-coli based on Level II Coli-Scan data). Initial Listing Date: 1996; This segment is included in the EPA approved Blacks Run bacteria TMDL. Federal TMDL ID # 9470

Blacks Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			10.70

Blacks Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			10.70

Sources:

Municipal (Urbanized High
Density Area)

Non-Point Source

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B26R-01-BEN** **Blacks Run**

Location: Blacks Run from the headwaters downstream to its confluence with Cooks Creek. (Start Mile: 10.73 End Mile: 0.00 Total Impaired Size: 10.73 Miles)

City / County: Harrisonburg City Rockingham Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to violations of the General Standard for Benthics at stations: 1BBLK000.08 (Impaired for VSCI) and 1BBLK005.62 (Impaired for VSCI). Initial Listing Date: 1996; This segment is included in the EPA approved Blacks Run benthic TMDL. Federal TMDL ID # 9510

Blacks Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			10.70

Sources:

Municipal (Urbanized High Non-Point Source
Density Area)

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B27R-01-BAC** **Pleasant Run**

Location: Pleasant Run from the headwaters downstream to its confluence with North River. (Start Mile: 6.3 End Mile: 0.00 Total Impaired Size: 6.3 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Fecal Coliform / 4A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BPLR000.16 (46 violations of 48 samples for e-coli). Initial Listing Date: 1996; This segment is included in the EPA approved Pleasants Run bacteria TMDL. Federal TMDL ID # 9469

Pleasant Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			6.30
Pleasant Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			6.30

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B27R-01-BEN** **Pleasant Run**

Location: Pleasant Run from the headwaters downstream to its confluence with North River. (Start Mile: 6.3 End Mile: 0.00 Total Impaired Size: 6.3 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to violations of the General Standard for Benthics at station: 1BPLR000.08 (Impaired for VSCI). Initial Listing Date: 1996; This segment is included in the EPA approved Pleasants Run benthic TMDL. Federal TMDL ID # 9508

Pleasant Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			6.30

Sources:

Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B28R-01-BAC** **Naked Creek**

Location: Naked Creek from the headwaters downstream to its confluence with North River. (Start Mile: 6.85 End Mile: 0.00 Total Impaired Size: 6.85 Miles)

City / County: Augusta Co. Rockingham Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to violations of the e-coli bacteria WQS at stations: 1BNKD000.80 (12 violations of 18 samples for e-coli) and 1BNKD003.78 (8 violations of 12 samples for e-coli). Initial Listing Date: 1996; This segment is located within the EPA approved Naked Creek bacteria TMDL. Federal TMDL ID # 7710

Naked Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			6.85
Naked Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			6.85

Sources:

Agriculture Non-Point Source Wildlife Other than Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B29R-01-BAC** **Congers Creek/Duck Run/Mill Creek**

Location: Congers Creek from the headwaters downstream to its confluence with Duck Run; Duck Run from the headwaters downstream to its confluence with Mill Creek, Mill Creek from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 5.51, 2.75, 5.93 End Mile: 0.00, 0.00, 0.00 Total Impaired Size: 5.51Miles, 2.75 Miles, 5.93 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Fecal Coliform / 4A

This segments remain impaired for recreational use based on violations of the fecal coliform bacteria standard at station 1BCNG000.03, 1BDRK000.18 and 1BMIC001.00 (27 violations of 42 samples for e-coli). Initial Listing Date: 1996; Thess segments are included in the EPA approval Mill Creek TMDL for bacteria. Federal TMDL ID # 9468

Congers Creek/Duck Run/Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			5.93

Congers Creek/Duck Run/Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			14.19

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B29R-01-BEN** **Mill Creek**

Location: Mill Creek from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 5.93 End Mile: 0.00 Total Impaired Size: 5.93 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to violations of the General Standard for Benthics at stations: 1BMIC001.00 (Impaired for VSCI) and 1BMIC001.99 (Impaired for VSCI). Initial Listing Date: 1996; This segment is included in the EPA approved Mill Creek benthic TMDL. Federal TMDL ID # 9676

Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			5.93

Sources:

Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B30R-01-BAC** **South River**

Location: South River from the headwaters downstream to its confluence with Stony Run. (Start Mile: 52.30 End Mile: 40.49 Total Impaired Size: 11.81 Miles)

City / County: Augusta Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Fecal Coliform / 4A

This segment is impaired due to violations of the e-coli WQS at stations: 1BSTH041.68 (7 violations of 11 samples for e-coli) and 1BSTH044.90 (6 violations of 11 samples for e-coli). Initial Listing Date: 1996; This segment was included in the EPA approved Middle River/South River bacteria TMDL. Federal TMDL ID # 7700

South River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			11.81
South River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			11.81

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B30R-02-PH** Loves Run

Location: Loves Run from the headwaters downstream to its confluence with the South River. (Start Mile: 5.02 End Mile: 0.00 Total Impaired Size: 5.02 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: pH / 5A

This segment is impaired due to violations of the pH WQS at station: UVA AU14 (12 violations of 12 samples for pH). Initial Listing Date: 2006.

Loves Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			5.02

Sources:

Atmospheric Deposition -
Acidity

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B30R-03-BAC** **Pine Run**

Location: Pine Run from the headwaters downstream to its confluence with the South River. (Start Mile: 15.73 End Mile: 0.00 Total Impaired Size: 15.73 Miles)

City / County: Augusta Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 4A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BPNE000.04 (3 violations of 10 samples for e-coli). Initial Listing Date: 2006. Federal TMDL ID # 7700

Pine Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			15.73

Sources:

Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B31L-01-PH** **Coles Run Reservoir**

Location: Coles Run Reservoir (Total Impaired Size: 11.44 Acres)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: pH / 5A

This lake is impaired due to violations of the pH WQS at station: 1BCLS003.60 (89 violations of 89 samples for pH). Initial Listing Date: 2008.

Coles Run Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			11.44

Sources:

Atmospheric Deposition -
Acidity

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B31R-01-BEN** **Back Creek**

Location: Back Creek from the headwaters downstream to the confluence with South River. (Start Mile: 13.31 End Mile 0.00 Total Impaired Size 13.31.Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station 1BBCK000.78. Initial Listing Date 2002.

Back Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			13.31

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B31R-02-BEN** Mills Creek

Location: Mills Creek from the headwaters downstream to its confluence with Back Creek. (Start Mile: 8.51 End Mile: 0.00 Total Impaired Size: 8.51 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment considered impaired for aquatic life use based on a Severely Impaired Benthic assessment at U.S. Forest Service station 5084 for the 2002 assessment cycle. It was not visited during the 2008 cycle so it remains impaired. Initial Listing Date: 2002.

Mills Creek	Estuary	Reservoir	River
Aquatic Life	(Sq. Miles)	(Acres)	(Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			8.51

Sources:

Atmospheric Deposition -
Acidity

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B31R-03-BEN** **Toms Branch**

Location: Toms Branch from the headwaters downstream to its confluence with an unnamed tributary above the upper end of the normal pool of the Toms Branch Dam. (Start Mile: 2.71End Mile: 0.00 Total Impaired Size: 2.71 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4C

This segment is considered impaired for aquatic life use based on moderately impaired benthic assessment by the U.S. Forest Service at site 5104 in the 2004 assessment. No new data is in the 2008 cycle. This impairment was determined to be natural in the 2004 assessment and that categorization will carry to the 2008 cycle. Initial Listing Date: 2002.

Toms Branch	Estuary	Reservoir	River
Aquatic Life	(Sq. Miles)	(Acres)	(Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			2.71

Sources:

Drought-related Impacts

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B31R-04-PH** **Coles Run**

Location: Coles Run from the headwaters downstream to its confluence with South River. (Start Mile: 6.10 End Mile: 0.00 Total Impaired Size: 6.10 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: pH / 5A

This segment is impaired due to violations of the pH WQS at station: UVA AU16 (12 violations of 12 samples for pH). Initial Listing Date: 2006.

Coles Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			6.11

Sources:

Atmospheric Deposition -
Acidity

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B31R-05-PH** **Johns Run**

Location: Johns Run from the headwaters downstream its confluence with South River. (Start Mile: 4.86 End Mile: 0.00 Total Impaired Size: 4.86 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: pH / 5A

This segment is impaired due to violations of the pH WQS at station: UVA AU15 (12 violations of 12 samples for pH). Initial Listing Date: 2006.

Johns Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			4.86

Sources:

Atmospheric Deposition -
Acidity

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B31R-06-PH** **Kennedy Creek**

Location: Kennedy Creek and tributaries from the headwaters downstream to its confluence with South River. (Start Mile:9.47 End Mile: 0.00 Total Impaired Size: 9.47 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: pH / 5A

This segment is impaired due to violations of the pH WQS at station: UVA VT39 (12 violations of 12 samples for pH). Initial Listing Date: 2006.

Kennedy Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			9.49

Sources:

Atmospheric Deposition -
Acidity

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B31R-07-PH** **Orebank Creek**

Location: Orebank Creek from the headwaters downstream to its confluence with Back Creek. (Start Mile: 3 End Mile: 0.00 Total Impaired Size: 3 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: pH / 5A

This segment is impaired due to violations of the pH WQS at station: UVA OB01 (12 violations of 12 samples for pH). Initial Listing Date: 2006.

Orebank Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			3.00

Sources:

Atmospheric Deposition -
Acidity

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B32R-01-BEN** **South River**

Location: South River from the INVISTA discharge downstream to its confluence with Stull Run.

City / County: Augusta Co. Waynesboro City

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at stations: 1BSTH012.71 (Impaired for VSCI); 1BSTH013.58 (Impaired for VSCI) and 1BSTH021.72 (Impaired for VSCI). Initial Listing Date: 1996.

South River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			19.34

Sources:

Municipal (Urbanized High
Density Area)

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B32R-02-BAC** **South River**

Location: South River from the INVISTA discharge to its confluence with the North River. (Start Mile: 24.63 End Mile: 0.00 Total Impaired Size: 24.63 Miles)

City / County: Augusta Co. Rockingham Co. Waynesboro City

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at stations: 1BSTH007.80 (8 violations of 27 samples for e-coli); 1BSTH014.49 (2 violations of 12 samples for e-coli) and 1BSTH019.52 (3 violations of 12 samples for e-coli). Initial Listing Date: 1996.

South River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			13.91
South River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			24.63

Sources:

Agriculture Non-Point Source Wildlife Other than Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B32R-02-HG**

South River/South Fork Shenandoah River/North Fork Shenandoah River/Shenandoah River

Location: South River from the INVISTA discharge downstream (inclusive of the entire South Fork Shenandoah River and North Fork Shenandoah River from its confluence with Passage Creek downstream to its confluence with the South Fork Shenandoah River) to the Shenandoah River's confluence with Craig Run. (Start Mile: 163.27 End Mile: 8.16 Total Impaired Size: 155.11 Miles)

City / County: Augusta Co.
Waynesboro City

Clarke Co.

Page Co.

Rockingham Co.

Warren Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: Mercury in Fish Tissue / 5A

This segment is impaired due to the presence of Hg in fish tissue at stations: 1BSTH004.21 (4 samples of Hg (Redbreast Sunfish, Lmouth Bass (2) & Wh. Sucker) 2005); 1BSTH020.44 (2 samples of Hg (Lmouth Bass & Wh. Sucker) 2005); 1BSTH022.75 (3 samples of Hg (Lmouth Bass (2) and White Sucker) 2005); 1BSTH023.73 (5 samples of Hg in Redbreast Sunfish, 3 samples in Largemouth Bass and 1 sample in Smallmouth Bass 2005); 1BSTH025.10 (2 samples of Hg (Redbreast Sunfish & Largeemouth Bass) 2005); 1BSSF063.17 (2 samples of Hg in Redbreast Sunfish and Lmouth Bass); 1BSSF000.19 (01 Hg Sed, 05 Hg in 2 species); 1BSHN053.63 (3 samples of Hg in Bluegill, Smouth & Lmouth Bass); 1BSHN028.15 (2 samples below VDH threshold for Hg); 1BSHN038.27 (3 samples of Hg in Lmouth Bass (2) & Channel Catfish). Initial Listing Date: 1998. This segment was lengthened this cycle as the presence of Hg was found further downstream than in the 2006 cycle. (128.82 miles to 155.11 miles) VDH Fish Consumption Advisory

South River/South Fork Shenandoah River/North Fork Shenandoah River/Shenandoah River

Fish Consumption

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Mercury in Fish Tissue - Total Impaired Size by Water Type:

156.09

Sources:

Contaminated Sediments

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B32R-02-PCB** **South River**

Location: South River from its confluence with Stull Run downstream to its confluence with North River. (Start Mile: 5.29 End Mile: 0.00
Total Impaired Size: 5.29 Miles)

City / County: Augusta Co. Rockingham Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: PCB in Fish Tissue / 5A

This segment is impaired due to the presence of PCB's in fish tissue at station: 1BSTH000.19 (2 samples of PCB's (Carp and Redhorse Sucker (2005))). Initial Listing Date: 2008.

South River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
PCB in Fish Tissue - Total Impaired Size by Water Type:			5.29

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B32R-03-PH** **Paine Run**

Location: Paine Run from the headwaters downstream to its confluence with South River. (Start Mile: 6.26 End Mile: 0.00 Total Impaired Size: 6.26 Miles)

City / County: Augusta Co. Rockingham Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: pH / 5A

This segment is impaired due to violations of the pH WQS at stations: UVA VT36 (12 violations of 12 samples for pH) and UVA PAIN (11 violations of 12 samples for pH). Initial Listing Date: 2004.

Paine Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			6.26

Sources:

Atmospheric Deposition -
Acidity

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B32R-04-PH** Meadow Run

Location: Meadow Run from the headwaters downstream to the end of surface flow. (Start Mile: 6.87 End Mile: 0.00 Total Impaired Size: 6.87 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: pH / 5A

This segment is impaired due to violations of the pH WQS at station: UVA VT36 (12 violations of 12 samples for pH). Initial Listing Date: 2004.

Meadow Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			6.87

Sources:

Atmospheric Deposition -
Acidity

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B33R-01-BAC** South Fork Shenandoah River

Location: South Fork Shenandoah River from its confluence with North and South Rivers downstream to its confluence with Hawksbill Creek. (Start Mile: 100.97 End Mile: 41.98 Total Impaired Size: 58.99 Miles)

City / County: Page Co. Rockingham Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A Fecal Coliform / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BSSF100.10 (10 violations of 41 samples for e-coli). Initial Listing Date: 2002.

South Fork Shenandoah River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			25.57
South Fork Shenandoah River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			59.00

Sources:

Agriculture	Non-Point Source	Source Unknown	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B33R-01-BEN** **South Fork Shenandoah River**

Location: South Fork Shenandoah River from its confluence with North and South Rivers downstream to its confluence with Hawksbill Creek. (Start Mile: 100.97 End Mile: 41.98 Total Impaired Size: 58.99 Miles)

City / County: Page Co. Rockingham Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 1BSSF100.10 (Impaired for VSCI).
Initial Listing Date: 1998.

South Fork Shenandoah River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			59.00

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B33R-02-PH** **Deep Run**

Location: Deep Run from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 4.33 End Mile: 0.00 Total Impaired Size: 4.43 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: pH / 5A

This segment is impaired due to violations of the pH WQS at station: UVA DR01 (12 violations of 12 samples for pH). Initial Listing Date: 2004.

Deep Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			4.33

Sources:

Atmospheric Deposition -
Acidity

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B33R-03-PH** **Lower Lewis Run**

Location: Lower Lewis Run from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 3.66 End Mile: 0.00 Total Impaired Size: 3.66 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: pH / 5A

This segment is impaired due to violations of the pH WQS at station: UVA RH47 (12 violations of 12 samples for pH). Initial Listing Date: 2006.

Lower Lewis Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			3.66

Sources:

Atmospheric Deposition -
Acidity

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B34R-01-BAC** **Cub Run**

Location: Cub Run from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 13.88 End Mile: 0.00 Total Impaired Size: 13.88 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Fecal Coliform / 4A

This segment is impaired due to violations of the e-coli WQS at station: 1BCBR000.03 (9 violations of 15 samples for e-coli) and 1BCBR007.42 (7 violations of 11 samples for e-coli). Initial Listing Date: 1998; This segment is included in the EPA approved Cub Run bacteria TMDL. Federal TMDL ID # 18237

Cub Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			13.88
Cub Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			13.88

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B35R-01-BAC** Boone Run

Location: Boone Run and tributary from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 13.08 End Mile: 0.00 Total Impaired Size: 13.08 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

This segment remains impaired for recreational use due to violations of the fecal coliform bacteria WQS at station: 1BBON000.60 (2 violations of 3 samples for fecal coliform). Initial Listing Date: 2002.

Boone Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			13.08

Sources:

Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B35R-02-BAC** **Quail Run**

Location: Quail Run from the Massanutten STP discharge downstream to its confluence with Boone Run. (Start Mile: 4.26 End Mile: 0.00 Total Impaired Size: 4.26 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Fecal Coliform / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BBON001.46 (7 violations of 11 samples for e-coli). Initial Listing Date: 2004.

Quail Run	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			4.89
Quail Run	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			4.89

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B35R-02-BEN** **Quail Run**

Location: Quail Run from the Massanutten STP discharge downstream to its confluence with Boone Run. (Start Mile: 4.26 End Mile: 0.00 Total Impaired Size: 4.26 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to violations of the General Standard for Benthics at stations: 1BQAL004.30 (Impaired for VSCI) and 1BQAL005.04 (Impaired for VSCI). Initial Listing Date: 1998; This segment is included in the EPA approved Quail Run benthic TMDL. Federal TMDL ID # 20863 & 20864

Quail Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			4.89

Sources:

Municipal Point Source
Discharges

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B35R-03-BEN** **Quail Run**

Location: Quail Run from the headwaters downstream to the Massanutten STP discharge. (Start Mile: 5.54 End Mile: 4.26 Total Impaired Size: 1.28 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5C

This segment is impaired due to violations of the General Standard for Benthics at station: 1BQAL005.09 (Impaired for VSCI).
Initial Listing Date: 2002.

Quail Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			1.28

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B35R-04-PH** **Two Mile Run**

Location: Two Mile Run from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 4.7
End Mile: 0.00 Total Impaired Size: 4.7 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: pH / 5A

This segment is impaired due to violations of the pH WQS at station: UVA VT53 (3 violations of 12 samples for pH). Initial
Listing Date: 2006.

Two Mile Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			4.70

Sources:

Atmospheric Deposition -
Acidity

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B36R-01-BEN** **Naked Creek**

Location: Naked Creek including the East Branch from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 12.44 End Mile: 0.00 Total Impaired Size: 12.44 Miles)

City / County: Page Co. Rockingham Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 1BNAK001.24 (Impaired for VSCI).
Initial Listing Date: 1998.

Naked Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			12.44

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B37R-01-BAC** **Cub Run**

Location: Cub Run originating on the east side of the Massanutten Mountain from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 9.62 End Mile: 0.00 Total Impaired Size: 9.62 Miles)

City / County: Page Co. Rockingham Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A Fecal Coliform / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BCUB000.40 (2 violations of 11 samples for e-coli). Initial Listing Date: 2004.

Cub Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			9.62
Cub Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			9.62

Sources:

Agriculture Non-Point Source Wildlife Other than Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B37R-02-BAC** **Line Run**

Location: Line Run from the headwaters downstream to its confluence with Honey Run. (Start Mile: 3.9 End Mile: 0.00 Total Impaired Size: 3.9 Miles)

City / County: Page Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BLIN001.60 (3 violations of 12 samples for e-coli). Initial Listing Date: 2006.

Line Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			3.90

Sources:

Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B37R-03-BAC** **Honey Run**

Location: Honey Run from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 4.53 End Mile: 0.00 Total Impaired Size: 4.53 Miles)

City / County: Page Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BHDY000.91 (2 violations of 12 samples for e-coli). Initial Listing Date: 2008.

Honey Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			4.53

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B38R-01-BAC** **Mill Creek**

Location: Mill Creek from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 6.74 End Mile: 0.00 Total Impaired Size: 6.74 Miles)

City / County: Page Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Fecal Coliform / 4A

This segment is impaired due to violations of the e-coli bacteria WQS at stations: 1BMLC000.40 (8 violations of 12 samples for e-coli); 1BMLC-FP13B-PCCM (3 violations of 3 samples for e-coli based on Level II Coli-Scan data); 1BMLC-FP13-PCCM (4 violations of 16 samples for e-coli based on Level II Coli-Scan data) and 1BMLC-FP616-PCCM (2 violations of 4 samples for e-coli based on Level II Coli-Scan data). Initial Listing Date: 1998; This segment is included in the EPA approved Mill Creek bacteria TMDL. Federal TMDL ID # 19994

Mill Creek			
Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli - Total Impaired Size by Water Type:			6.74
Mill Creek			
Recreation	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			6.74

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B38R-02-BAC** **Big Run**

Location: Big Run from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 5.4 End Mile: 0.00 Total Impaired Size: 5.4 Miles)

City / County: Page Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BBIG000.48 (10 violations of 11 samples for e-coli). Initial Listing Date: 2006.

Big Run	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			5.40

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B39L-01-DO** **Lake Arrowhead**

Location: Lake Arrowhead (Total Impaired Size: 36.07 Acres)

City / County: Page Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 4C

This lake has a naturally occurring DO impairment in the hypolimnion during the summer months when it is thermally stratified at station 1BDRI005.55. TSI results indicate that this is naturally occurring. This lake will be added to the the Virginia Lake Nutrient Criteria (187) in the future for nutrient evaluation. This segment is considered 4C-No TMDL Needed due to natural conditions.

Lake Arrowhead	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			36.07

Sources:

Natural Sources

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B39R-01-BAC** **Pass Run**

Location: Pass Run from the headwaters downstream to its confluence with Hawksbill Creek. (Start Mile: 9.07 End Mile: 0.00 Total Impaired Size: 9.07 Miles)

City / County: Page Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to violations of the e-coli WQS at station: 1BPSS000.02 (2 violations of 11 samples for e-coli); 1BPSS000.64 (3 violations of 6 samples for e-coli); 1BPSS-FP07B-PCCM (2 violations of 15 samples for e-coli based on Level II Coli-Scan data) and 1BPSS-FP07-PCCM (3 violations of 15 samples for e-coli based on Level II Coli-Scan data). Initial Listing Date: 2002; The segment is included in the EPA approved Hawksbill Creek bacteria TMDL. Federal TMDL ID # 19344

Pass Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			9.07

Pass Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			9.07

Sources:

Non-Point Source Wildlife Other than Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B39R-02-BAC** **Hawksbill Creek**

Location: Hawksbill Creek from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 19.23 End Mile: 0.00 Total Impaired Size: 19.23 Miles)

City / County: Page Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Fecal Coliform / 4A

This segment is impaired due to violations of the e-coli bacteria WQS at stations: 1BHKS000.96 (3 violations of 15 samples for e-coli); 1BHKS-FP06-PCCM (4 violations of 15 samples for e-coli based on Level II Coli-Scan data); 1BHKS009.58 (11 violations of 23 samples for e-coli); 1BHKS-FP08B-PCCM (9 violations of 10 samples based on Level II Coli-Scan data); 1BHKS-FP08BQ-PCCM (2 violations of 4 samples based on Level II Coli-Scan data); 1BHKS-FP08F-PCCM (6 violations of 15 samples for e-coli based on Level II Coli-Scan data) and 1BHKS-FP08G-PCCM (2 violations of 15 samples for e-coli based on Level II Coli-Scan data). Initial Listing Date: 2002. This segment is included in the EPA approved Hawksbill Creek bacteria TMDL. Federal TMDL ID # 19344

Hawksbill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			19.23

Hawksbill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			12.20

Sources:

Non-Point Source

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B39R-02-TEMP** **Hawksbill Creek**

Location: Hawksbill Creek from the headwaters downstream to its confluence with East Hawksbill Creek. (Start Mile: 19.23 End Mile: 7.03 Total Impaired Size: 12.2 Miles)

City / County: Page Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 4C

This segment is impaired due to violations of the temperature WQS at station: 1BHKS009.58 (2 violations of 15 samples for temperature). Initial Listing Date: 2002; The temperature impairment listed was based on this unit carrying a Class V - Stockable Trout Water designation. By letter from the Virginia Department of Game and Inland Fisheries, this water is not considered a cold water fishery. The temperature impairment will moved from Category 5A - Impaired and needing a TMDL to Category 4C - Impaired, not needing a TMDL due to natural conditions.

Hawksbill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			12.20

Sources:

Natural Conditions - Water
Quality Standards Use
Attainability Analyses
Needed

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B39R-03-BAC** **East Hawksbill Creek**

Location: East Hawksbill Creek from the headwaters downstream to its confluence with Hawksbill Creek. (Start Mile: 9.13 End Mile: 0.00 Total Impaired Size: 9.13 Miles)

City / County: Page Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 4A

This segment is impaired due to violations of the e-coli bacteria WQS at stations: 1BEHC000.80 (3 violations of 12 samples for e-coli) and 1BEHC-FP08E-PCCM (4 violations of 15 samples for e-coli based on Level II Coli-Scan data). Initial Listing Date: 2006; This segment is included in the EPA approved Hawksbill Creek bacteria TMDL. Federal TMDL ID # 19344

East Hawksbill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			9.13

Sources:

Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B39R-03-BEN** **East Hawksbill Creek**

Location: East Hawksbill Creek from the headwaters downstream to its confluence with Hawksbill Creek. (Start Mile: 9.13 End Mile: 0.00 Total Impaired Size: 9.13 Miles)

City / County: Page Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 1BEHC001.18 (Impaired for VSCI).
Initial Listing Date: 2008.

East Hawksbill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			9.13

Sources:

Agriculture Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B39R-03-PH** **Rocky Branch**

Location: Rocky Branch from the headwaters downstream to its confluence with Pass Run . (Start Mile:4.18 End Mile: 0.00 Total Impaired Size: 4.18 Miles)

City / County: Page Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: pH / 5A

This segment is impaired due to violations of the pH WQS at station: USGS 163054325 (1 violations of 2 samples for pH). Initial Listing Date: 2004; This segment is impaired for aquatic life use based on violations of the pH WQS at USGS site 163054325. This use support carries forward for the 2006 assessment as no new data are available for assessment in 2008.

Rocky Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			4.18

Sources:

Atmospheric Deposition -
Acidity

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B40R-01-PH** Jeremys Run

Location: Jeremys Run from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 10.94
End Mile: 0.00 Total Impaired Size: 10.94 Miles)

City / County: Page Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: pH / 5A

This segment is impaired due to violations of the pH WQS at station: USGS 01630565. Initial Listing Date: 2004; This impairment carries forward from the 2006 cycle as no additional data are available in the 2008 cycle.

Jeremys Run	Estuary	Reservoir	River
Aquatic Life	(Sq. Miles)	(Acres)	(Miles)
pH - Total Impaired Size by Water Type:			10.94

Sources:

Atmospheric Deposition -
Acidity

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B40R-02-BAC** Flint Run

Location: Flint Run and tributary from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 11.4 End Mile: 0.00 Total Impaired Size: 11.4 Miles)

City / County: Warren Co.

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

This segment remains impaired due to violations of the fecal coliform WQS at station: 1BFNT002.16 (4 violations of 12 samples for fecal coliform). Initial Listing Date: 2004; This impairment carries forward from the 2006 assessment based on fecal coliform as no additional e-coli data are available for assessment in 2008.

Flint Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			11.40

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B40R-03-TEMP** **Gooney Run**

Location: Gooney Run from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 18.38
End Mile: 0.00 Total Impaired Size: 18.38 Miles)

City / County: Warren Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5A

This segment is impaired due to violations of the temperature WQS at station: 1BGNY000.04 (3 violations of 11 samples for temperature). Initial Listing Date: 2006.

Gooney Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			18.38

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B41R-01-BAC** **Happy Creek**

Location: Happy Creek from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 8.42
End Mile: 0.00 Total Impaired Size: 8.42 Miles)

City / County: Warren Co.

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

This segment remains impaired due to violations of the fecal coliform WQS at station: 1BHPY001.29 (4 violations of 12 samples for fecal coliform). Initial Listing Date: 2004; This impairment is carried forward from the 2006 assessment as no additional e-coli data are available for assessment in 2008.

Happy Creek	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			8.42

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code B41R-02-PCB		South Fork Shenandoah River/North Fork Shenandoah River/Shenandoah River		
Location: South Fork Shenandoah River from the Rivermont Drive Bridge downstream to the VA/WV state line on the Shenandoah River (inclusive of the North Fork Shenandoah River from its confluence with Passage Creek downstream to its confluence with the South Fork Shenandoah River). (Start Mile: 51.10 End Mile: 0.00 Total Impaired Size: 51.10 Miles)				
City / County: Clarke Co.		Warren Co.		
Use(s): Fish Consumption				
Cause(s) /				
VA Category: PCB in Fish Tissue / 4A				
This segment is impaired due to the presence of PCB's in fish tissue at stations: 1BSSF000.19 (01 PCB 4 sp, 05 PCB in 3 species); 1BSHN053.63 (7 samples of PCB in Carp, Lmouth Bass & Channel Catfish (2005)); 1BSHN028.15 (8 samples with PCB in Carp, Channel Catfish & Shorthead Redhorse Sucker); 1BSHN038.27 (10 samples of PCB in Carp, Channel Catfish, Lmouth Bass & Shorthead Redhorse Sucker). Initial Listing Date: 1998; This segment is included in the EPA approved Shenandoah River PCB TMDL. Federal TMDL ID # 7715 VDH Fish Consumption Advisory				
South Fork Shenandoah River/North Fork Shenandoah River/Shenandoah River		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption				
PCB in Fish Tissue - Total Impaired Size by Water Type:				47.46
Sources:				
Contaminated Sediments				

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B41R-03-BEN** **Happy Creek**

Location: Happy Creek from the headwaters downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 8.42
End Mile: 0.00 Total Impaired Size: 8.42 Miles)

City / County: Warren Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 1BHPY001.29 (Impaired for VSCI).
Initial Listing Date: 2008.

Happy Creek	Estuary	Reservoir	River
Aquatic Life	(Sq. Miles)	(Acres)	(Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			8.42

Sources:

Agriculture Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B43R-01-BAC** Little Dry River

Location: Little Dry River and tributaries from the headwaters downstream to its confluence with the North Fork Shenandoah River.
(Start Mile: 34.75 End Mile: 0.00 Total Impaired Size: 34.75 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 4A

This segment remains impaired due to violations of the fecal coliform bacteria WQS at station: 1BLTD001.15 (3 violations of 12 samples for fecal coliform). Initial Listing Date: 2004; This impairment carries forward from the 2006 cycle as no additional e-coli data are available for assessment in 2008. This segment was included in the EPA approved North Fork Shenandoah River bacteria TMDL. Federal TMDL ID # 31235

Little Dry River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			34.75

Sources:

Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B43R-01-PH** Little Dry River

Location: Little Dry River and tributaries from the headwaters downstream to its confluence with the North Fork Shenandoah River.
(Start Mile: 34.75 End Mile: 0.00 Total Impaired Size: 34.75 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: pH / 5A

This segment is impaired due to violations of the pH WQS at station: 1BLTD001.15 (2 violations of 13 samples for pH). Initial Listing Date: 2004.

Little Dry River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			34.75

Sources:

Atmospheric Deposition -
Acidity

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B45R-01-BAC** **Long Meadow Run**

Location: Long Meadow Run from the headwaters downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 8.53 End Mile: 0.00 Total Impaired Size: 8.53 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 4A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BLOM001.45 (9 violations of 9 samples for e-coli). Initial Listing Date: 2002; This segment was included in the EPA approved North Fork Shenandoah River bacteria TMDL. Federal TMDL ID # 31235

Long Meadow Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			8.53

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B45R-01-BEN** **Long Meadow Run**

Location: Long Meadow Run from the headwaters downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 8.53 End Mile: 0.00 Total Impaired Size: 8.53 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 1BLOM000.24 (Impaired for VSCI).
Initial Listing Date 2008.

Long Meadow Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			8.53

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B45R-02-BAC** **Turley Creek**

Location: Turley Creek from the headwaters downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 4.01End Mile: 0.00 Total Impaired Size: 4.01 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

This segment remains impaired due to violations of the fecal coliform bacteria WQS at station: 1BTRL000.02 (7 violations of 15 samples for fecal coliform). Initial Listing Date: 2002.

Turley Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			4.01

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B45R-02-BEN** **Turley Creek**

Location: Turley Creek from the headwaters downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 4.01
End Mile: 0.00 Total Impaired Size: 4.01 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 1BTRL000.02 (Impaired for VSCI).
Initial Listing Date: 2002.

Turley Creek	Estuary	Reservoir	River
Aquatic Life	(Sq. Miles)	(Acres)	(Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			4.01

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B45R-03-BAC** **Holmans Creek**

Location: Holmans Creek from the headwaters downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 10.42
End Mile: 0.00 Total Impaired Size: 10.42 Miles)

City / County: Rockingham Co. Shenandoah Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BHMN002.09 (15 violations of 30 samples for e-coli). Initial Listing Date: 1996; This impairment is included in the EPA approved Holmans Creek bacteria TMDL. Federal TMDL ID # 9577

Holmans Creek	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			10.42
Holmans Creek	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			10.42

Sources:

Agriculture Non-Point Source Wildlife Other than Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B45R-03-BEN** **Holmans Creek**

Location: Holmans Creek from the headwaters downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 10.42
End Mile: 0.00 Total Impaired Size: 10.42 Miles)

City / County: Rockingham Co. Shenandoah Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to violations of the General Standard for Benthics at stations: 1BHMN002.09 Impaired for VSCI) and 1BHMN007.59 (Impaired for VSCI). Initial Listing Date: 1996; This impairment is included in the EPA approved Holmans Creek benthic TMDL. Federal TMDL ID # 19410

Holmans Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			10.42

Sources:

Non-Point Source Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B45R-04-BAC** **North Fork Shenandoah River**

Location: North Fork Shenandoah River from its confluence with Turley Creek downstream to its confluence with Stony Creek. (Start Mile: 92.61 End Mile: 60.75 Total Impaired Size: 31.86 Miles)

City / County: Rockingham Co. Shenandoah Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A Fecal Coliform / 4A

This segment is impaired due to violations of the e-coli bacteria WQS at stations: 1BNFS081.42 (8 violations of 36 samples for e-coli); 1BNFS062.18 (2 violations of 12 samples for e-coli) and 1BNFS070.67 (8 violations of 26 samples for e-coli). Initial Listing Date: 1996; This assessment unit was included in the EPA approved North Fork Shenandoah River bacteria TMDL. Federal TMDL ID # 31235.

North Fork Shenandoah River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			23.65

North Fork Shenandoah River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			31.86

Sources:

Agriculture Non-Point Source Wildlife Other than Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B45R-05-BEN** **North Fork Shenandoah River**

Location: North Fork Shenandoah River from its confluence Fort Run downstream to its confluence with Holmans Creek. (Start Mile: 87.92 End Mile: 76.11 Total Impaired Size: 11.81 Miles)

City / County: Rockingham Co. Shenandoah Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 1BNFS087.35 (Impaired for VSCI).
Initial Listing Date: 2008.

North Fork Shenandoah River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			11.81

Sources:

Industrial Point Source Discharge	Municipal (Urbanized High Density Area)
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B46R-01-BAC** **Linville Creek**

Location: Linville Creek from the headwaters downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 13.49
End Mile: 0.00 Total Impaired Size: 13.49 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Fecal Coliform / 4A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BLNV001.22 (19 violations of 32 samples for e-coli). Initial Listing Date: 1996; This impairment was included in the EPA approved Linville Creek bacteria TMDL. Federal TMDL ID # 19713

Linville Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			13.49
Linville Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			13.49

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B46R-01-BEN** **Linville Creek**

Location: Linville Creek from the headwaters downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 13.49
End Mile: 0.00 Total Impaired Size: 13.49 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to violations of the General Standard for Benthics at station: 1BLNV000.71 (Impaired for VSCI).
Initial Listing Date: 1996; This impairment was included in the EPA approved Linville Creek benthic TMDL. Federal TMDL ID #
19713

Linville Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			13.49

Sources:

Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B47R-01-BEN** **Fridley Run**

Location: Fridley Run from the headwaters downstream to its confluence with Mountain Run. (Start Mile: 2.39 End Mile: 0.00 Total Impaired Size: 2.39 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: USFS 4074 (MAIS Impaired). Initial Listing Date: 2002.

Fridley Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			2.39

Sources:

Atmospheric Deposition -
Acidity

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B47R-01-PH** **Fridley Run**

Location: Fridley Run from the headwaters downstream to its confluence with Mountain Run. (Start Mile: 2.39 End Mile: 0.00 Total Impaired Size: 2.39 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: pH / 5A

This segment is impaired due to violations of the pH WQS at station: 1BFDY000.02 (12 violations of 13 samples for pH). Initial Listing Date: 2006.

Fridley Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			2.39

Sources:

Atmospheric Deposition -
Acidity

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B47R-02-BAC** Mountain Run/Smith Creek/War Branch

Location: Mountain Run from the headwaters downstream to its confluence with Smith Creek; Smith Creek from the headwaters downstream to its confluence with the North Fork Shenandoah River; War Branch from the headwaters downstream to its confluence with Smith Creek. (Start Mile: 5.98, 33.83, 6.81 End Mile: 0.00, 0.00, 0.00 Total Impaired Size: 5.98 Miles, 33.83 Miles, 6.81 Miles)

City / County: Rockingham Co. Shenandoah Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Fecal Coliform / 4A

These segments are impaired due to violations of the e-coli bacteria WQS at stations: 1BMTR000.93 (3 violations of 13 samples for e-coli); 1BSMT004.60 (13 violations of 34 samples for e-coli); 1BSMT023.18 (2 violations of 9 samples for e-coli) and 1BWAR003.88 (4 violations of 9 samples for e-coli). Initial Listing Dates: 2006 (Mountain Run), 1996 (Smith Creek), 2008 War Branch); These segments are included in the EPA approved Smith Creek bacteria TMDL. Federal TMDL ID # 21281

Mountain Run/Smith Creek/War Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			37.98

Mountain Run/Smith Creek/War Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			33.83

Sources:

Agriculture

Non-Point Source

Wildlife Other than
Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B47R-03-BEN** **Lacey Spring Branch**

Location: Lacey Spring Branch from the spring downstream to its confluence with Smith Creek. (Start Mile: .58 End Mile: 0.00 Total Impaired Size: .58 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment remains impaired due to severely impaired benthic ratings in previous assessment cycles. It was not visited during the 2008 cycle. Initial Listing Date: 1998; The aquatic life impairment is included in the EPA approved TMDL for Commercial Fish farms. Federal TMDL ID # 9496

Lacey Spring Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			0.58

Sources:

Aquaculture (Permitted)

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B47R-04-BEN** **Mountain Run**

Location: Mountain Run from the headwaters downstream to its confluence with Smith Creek. (Start Mile: 5.98 End Mile: 0.00 Total Impaired Size: 5.98 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: USFS 4076 (MAIS Impaired). Initial Listing Date: 2002.

Mountain Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			5.98

Sources:

Atmospheric Deposition -
Acidity

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B47R-05-BEN** **Smith Creek**

Location: Smith Creek from the Shenandoah Fisheries outfall downstream to its confluence with the North Fork Shenandoah River.
(Start Mile: 25.19 End Mile: 0.00 Total Impaired Size: 25.19 Miles)

City / County: Rockingham Co. Shenandoah Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to violations of the General Standard for Benthics at station: 1BSMT006.62 (Impaired for VSCI).
Initial Listing Date: 1998; This segment is included in the EPA approved Smith Creek benthic TMDL. Federal TMDL ID # 21280

Smith Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			25.19

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B47R-06-BAC** **Dry Fork**

Location: Dry Fork from the headwaters downstream to its confluence with Smith Creek. (Start Mile: 10.16 End Mile: 0.00 Total Impaired Size: 10.16 Miles)

City / County: Rockingham Co.

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 4A

This segment remains impaired due to violations of the fecal coliform bacteria WQS at station: 1BDFK000.76 (8 violations of 11 samples for fecal coliform). Initial Listing Date: 2004; This impairment is carried forward based on fecal coliform from the 2006 cycle as no additional e-coli data are available for assessment in 2008. This impairment is addressed in the EPA approved Smith Creek bacteria TMDL. Federal TMDL ID # 21281

Dry Fork	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			10.06

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B47R-07-BEN** **Dry Fork**

Location: Dry Fork from the headwaters downstream to its confluence with Smith Creek. (Start Mile: 10.16 End Mile: 0.00 Total Impaired Size: 10.06 Miles)

City / County: Rockingham Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at stations: 1BDFK003.82 (Impaired for VSCI) and 1BDFK004.03 (Impaired for VSCI). Initial Listing Date: 2006.

Dry Fork	Estuary	Reservoir	River
Aquatic Life	(Sq. Miles)	(Acres)	(Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			10.06

Sources:

Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B48R-01-BAC** **Mill Creek**

Location: Mill Creek from the headwaters downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 15 End Mile: 0.00 Total Impaired Size: 15 Miles)

City / County: Rockingham Co. Shenandoah Co.

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 4A

This segment remains impaired due to violations of the fecal coliform bacteria WQS at stations: 1BMIL002.20 (8 violations of 16 samples for fecal coliform) and 1BMIL005.67 (2 violations of 13 samples for fecal coliform). Initial Listing Date: 2002; This segment is included in the EPA approved Mill Creek bacteria TMDL. Federal TMDL ID # 31235

Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			15.00

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B48R-01-BEN** **Mill Creek**

Location: Mill Creek from the headwaters downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 15 End Mile: 0.00 Total Impaired Size: 15 Miles)

City / County: Rockingham Co. Shenandoah Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to violations of the General Standard for Benthics at station: 1BMIL002.20 (Impaired for VSCI). Initial Listing Date: 1998. Additional benthic surveys upstream indicate a fully supporting status for benthics, however, they are borderline and the segment size remains the same as 2006. This segment is included in the EPA approved Mill Creek benthic TMDL. Federal TMDL ID # 24533.

Mill Creek	Estuary	Reservoir	River
Aquatic Life	(Sq. Miles)	(Acres)	(Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			15.00

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B48R-02-BEN** **Crooked Run**

Location: Crooked Run from the headwaters downstream to its confluence with Mill Creek. (Start Mile: 3.89 End Mile: 0.00 Total Impaired Size: 3.89 Miles)

City / County: Shenandoah Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 1BCKD000.38 (Impaired for VSCI).
Initial Listing Date: 2008.

Crooked Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			3.89

Sources:

Agriculture Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B49R-01-BAC** **Stony Creek**

Location: Stony Creek from its confluence with Foltz Creek downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 17.04 End Mile: 0.00 Total Impaired Size: 17.04 Miles)

City / County: Shenandoah Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Fecal Coliform / 4A

This segment is impaired due to violations of the e-coli bacteria WQS at stations: 1BSTY001.22 (12 violations of 36 samples for e-coli) and 1BSTY013.85 (2 violations of 12 samples for e-coli). Initial Listing Date: 1998; This segment was included in the EPA approved North Fork Shenandoah River bacteria TMDL. Federal TMDL ID # 31238

Stony Creek	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			12.71
Stony Creek	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			17.04

Sources:

Agriculture Non-Point Source Wildlife Other than Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B49R-01-BEN** **Stony Creek**

Location: Stony Creek from the Georges Chicken discharge downstream to its confluence with the North Fork Shenandoah River.
(Start Mile: 5.76 End Mile: 0.00 Total Impaired Size: 5.76 Miles)

City / County: Shenandoah Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 1BSTY004.24 (Impaired for VSCI).
Initial Listing Date: 2008.

Stony Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			5.76

Sources:

Agriculture	Municipal (Urbanized High Density Area)	Non-Point Source
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B49R-04-BEN** **Laurel Run**

Location: Laurel Run from its confluence with an unnamed tributary near USFS Road 252 downstream to its confluence with Stony Creek. (Start Mile: 3.72 End Mile: 0.00 Total Impaired Size: 3.72 Miles)

City / County: Shenandoah Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: USFS 4002 (MAIS Impaired). Initial Listing Date: 2002.

Laurel Run	Estuary	Reservoir	River
Aquatic Life	(Sq. Miles)	(Acres)	(Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			3.72

Sources:

Atmospheric Deposition -
Acidity

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B49R-05-BEN** **Little Stony Creek**

Location: Little Stony Creek from the headwaters downstream to its confluence with an unnamed tributary near USFS Road 92. (Start Mile: 3.24 End Mile: 0.00 Total Impaired Size: 3.24 Miles)

City / County: Shenandoah Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at stations: USFS 4016 (MAIS Impaired) and USFS 4017 (MAIS Impaired). Initial Listing Date: 2004.

Little Stony Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			3.24

Sources:

Atmospheric Deposition -
Acidity

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B49R-07-TEMP** **Stony Creek**

Location: Stony Creek from the headwaters downstream to its confluence with Foltz Creek. (Start Mile: 26.49 End Mile: 17.04 Total Impaired Size: 9.45 Miles)

City / County: Shenandoah Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5A

This segment is impaired due to violations of the temperature WQS at station: 1BSTY019.70 (2 violations of 13 samples for temperature). Initial Listing Date: 2006.

Stony Creek	Estuary	Reservoir	River
Aquatic Life	(Sq. Miles)	(Acres)	(Miles)
Temperature, water - Total Impaired Size by Water Type:			9.45

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B50R-01-BEN** **Toms Brook**

Location: Toms Brook from the headwaters downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 7.18 End Mile: 0.00 Total Impaired Size: 7.18 Miles)

City / County: Shenandoah Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to violations of the General Standard for Benthics at stations: 1BTMB000.70 (Impaired for VSCI) and 1BTMB002.22 (Impaired for VSCI). Initial Listing Date: 1998; This impairment is included into EPA approved Toms Brook benthic TMDL. Federal TMDL ID # 21697

Toms Brook	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			7.17

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B50R-02-BAC** **Narrow Passage Creek**

Location: Narrow Passage Creek from the headwaters downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 10.75 End Mile: 0.00 Total Impaired Size: 10.75 Miles)

City / County: Shenandoah Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Fecal Coliform / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BNPC000.02 (4 violations of 12 samples for e-coli). Initial Listing Date: 2002.

Narrow Passage Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			10.75
Narrow Passage Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			10.75

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B50R-03-BAC** **Pughs Run**

Location: Pughs Run from the headwaters downstream to its confluence with the North Fork Shenandoah River. (Start Mile: 5.86 End Mile: 0.00 Total Impaired Size: 5.86 Miles)

City / County: Shenandoah Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Fecal Coliform / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BPGH000.60 (4 violations of 15 samples for e-coli). Intial Listing Date: 2004.

Pughs Run	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			5.86
Pughs Run	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			5.86

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B51R-01-BAC** **Tumbling Run**

Location: Tumbling Run from the headwaters downstream to the 5 mile upper limit of the PWS designation for the Strasburg Public Water Intake. (Start Mile: 5.05 End Mile: .9 Total Impaired Size: 4.15 Miles)

City / County: Shenandoah Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Fecal Coliform / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BTBL001.27 (2 violations of 15 samples for e-coli). Initial Listing Date: 2004.

Tumbling Run	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			4.13
Tumbling Run	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			4.13

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B51R-02-BAC** **North Fork Shenandoah River**

Location: North Fork Shenandoah River from its confluence with Passage Creek downstream to its confluence with the South Fork Shenandoah River. (Start Mile: 5.29 End Mile: 0.00 Total Impaired Size: 5.29 Miles)

City / County: Warren Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BNFS000.57 (3 violations of 28 samples for e-coli). Initial Listing Date: 2008.

North Fork Shenandoah River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			5.29

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B52R-02-BEN** **Orndorff Spring Branch**

Location: Orndorff Spring Branch from the spring downstream to its confluence with Cedar Creek. (Start Mile: .23 End Mile: 0.00 Total Impaired Size: .23 Miles)

City / County: Shenandoah Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment remains impaired for aquatic life use based on a severely impaired benthic status during the 1998 cycle. This site has not had a benthic survey since. Initial Listing Date: 1998; This segment is included in the EPA approved TMDL for Impairments from Commercial Fish Farming operations. Federal TMDL ID # 9460

Orndorff Spring Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			0.23

Sources:

Aquaculture (Permitted)

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B52R-03-BEN** Cedar Creek

Location: Cedar Creek from the headwaters downstream to a spring branch near Van Buren Furnace (Start Mile 21.07 End Mile 18.54
Total Impaired Area: 2.53 Miles)

City / County: Shenandoah Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment remains impaired due to violations of the General Standard for Benthics at USFS 4003 in 2002. Initial Listing Date 2002.

Cedar Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			2.53

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B53R-01-BAC** Cedar Creek

Location: Cedar Creek from its confluence with Fall Run downstream to its confluence with Stickley Run. (Start Mile: 17.87 End Mile: 3.68 Total Impaired Size: 14.19 Miles)

City / County: Frederick Co. Shenandoah Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BCDR017.49 (2 violations of 15 samples for e-coli). Initial Listing Date: 2008.

Cedar Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			14.19

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B54R-01-BAC** **Passage Creek**

Location: Passage Creek from its confluence with Peters Mill Run downstream to its confluence with the North Fork Shenandoah River. (Start Mile:18.47 End Mile: 0.00 Total Impaired Size: 18.47 Miles)

City / County: Shenandoah Co. Warren Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A Fecal Coliform / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at stations: 1BPSG001.36 (3 violations of 27 samples for e-coli) and 1BPSG018.13 (2 violations of 12 samples for e-coli). Initial Listing Date: 2006.

Passage Creek	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			18.47
Passage Creek	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			18.47

Sources:

Agriculture Non-Point Source Wildlife Other than Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B55R-01-BAC** **Manassas Run**

Location: Manassas Run from the headwaters downstream to its confluence with the Shenandoah River. (Start Mile: 9.15 End Mile: 0.00 Total Impaired Size: 9.15 Miles)

City / County: Warren Co.

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

This segment remains impaired due to violations of the fecal coliform bacteria WQS at station: 1BMAN002.55 (3 violations of 12 samples for fecal coliform). This assessment is carried forward from the 2006 assessment cycle based on fecal coliform as no additional e-coli data are available for assessment in 2008. Initial Listing Date: 2004.

Manassas Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			9.15

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B55R-02-BAC** **Borden Marsh Run**

Location: Borden Marsh Run and tributaries from the headwaters downstream to its confluence with the Shenandoah River. (Start Mile: 9.46 End Mile: 0.00 Total Impaired Size: 9.46 Miles)

City / County: Clarke Co. Warren Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BBMR000.20 (5 violations of 11 samples for e-coli). Initial Listing Date: 2006.

Borden Marsh Run	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			9.46

Sources:

Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B55R-03-BAC** Willow Brook

Location: Willow Brook from the headwaters downstream to its confluence with the Shenandoah River. (Start Mile: 3.95 End Mile: 0.00
Total Impaired Size: 3.95 Miles)

City / County: Warren Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BWLO000.71 (7 violations of 11 samples for e-coli). Initial Listing Date: 2006.

Willow Brook	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			3.95

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B56R-01-BAC** **Crooked Run**

Location: Crooked Run excluding the tributary feeding the east arm of Lake Frederick from the headwaters downstream to its confluence with the Shenandoah River. (Start Mile: 8.87 End Mile: 0.00 Total Impaired Size: 8.87 Miles)

City / County: Frederick Co. Warren Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BCRO002.75 (3 violations of 9 samples for e-coli). Initial Listing Date: 2002.

Crooked Run	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			8.87
Crooked Run	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			8.87

Sources:

Agriculture Non-Point Source Wildlife Other than Waterfowl

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B56R-01-DO** **Crooked Run**

Location: Crooked Run excluding the tributary feeding the east arm of Lake Frederick from the headwaters downstream to its confluence with the Shenandoah River. (Start Mile: 8.87 End Mile: 0.00 Total Impaired Size: 8.87 Miles)

City / County: Frederick Co. Warren Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

This segment is impaired due to violations of the DO WQS at stations: 1BCRO-CR01-FOSR (2 violations of 9 samples for DO) and 1BCRO-CR03-FOSR (2 violations of 9 samples for DO). Initial Listing Date: 2008.

Crooked Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			8.87

Sources:

Upstream Impoundments
(e.g., PI-566 NRCS
Structures)

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B56R-02-DO** **Stephens Run**

Location: Stephens Run from an unnamed tributary .95 miles upstream of Crooked Run downstream to its confluence with Crooked Run. (Start Mile: .95 End Mile: 0.00 Total Impaired Size: .95 Miles)

City / County: Frederick Co.

Use(s): Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

This segment is impaired due to violations of the DO WQS at station: 1BSTV-CR02-FOSR (7 violations of 9 samples for DO).
Initial Listing Date: 2008.

Stephens Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			0.95

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B56R-03-DO** Crooked Run X-trib

Location: Crooked Run X-trib from the headwaters downstream to its confluence with Crooked Run. (Start Mile: .09 End Mile: 0.00
Total Impaired Size: .09 Miles)

City / County: Warren Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

This segment is impaired due to violations of the DO WQS at station: 1BXCR-CR04-FOSR (7 violations of 9 samples for dissolved oxygen). Initial Listing Date: 2006.

Crooked Run X-trib	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			0.09

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B57R-01-BAC** **Page Brook Run/Spout Run**

Location: Page Brook Run from the headwaters downstream to its confluence with Roseville Run; Spout Run from its confluence with Page Brook Run downstream to its confluence with the Shenandoah River. (Start Mile: 8.78, 3.70 End Mile: 0.00, 0.00 Total Impaired Size: 8.78 Miles, 3.70 Miles)

City / County: Clarke Co.

Use(s): Recreation

Cause(s) /
VA Category: Fecal Coliform / 5A

This segment remains impaired due to violations of the fecal coliform bacteria WQS at stations: 1BPGE000.09 (7 violations of 12 samples for fecal coliform) and 1BSPR000.40 (5 violations of 18 samples for fecal coliform). Initial Listing Date: 2004 (Page Brook Run), 1998 (Spout Run); This impaired status is carried forward from the 2006 cycle based on fecal coliform as no additional e-coli data are available for assessment in 2008.

Page Brook Run/Spout Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			12.48

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B57R-01-BEN** **Spout Run**

Location: Spout Run from its confluence with Page Brook Run downstream to its confluence with the Shenandoah River. (Start Mile: 3.70 End Mile: 0.00 Total Impaired Size: 3.70 Miles)

City / County: Clarke Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 1BSPR000.40 (Impaired for VSCI).
Initial Listing Date: 1998.

Spout Run	Estuary	Reservoir	River
Aquatic Life	(Sq. Miles)	(Acres)	(Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			3.70

Sources:

Source Unknown

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B57R-02-BAC** **Long Branch**

Location: Long Branch from the headwaters downstream to its confluence with the Shenandoah River. (Start Mile: 3.63 End Mile: 0.00
Total Impaired Size: 3.63 Miles)

City / County: Clarke Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Fecal Coliform / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BLNG000.24 (2 violations of 6 samples for e-coli). Initial Listing Date: 2004.

Long Branch	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			3.63
Long Branch	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			3.63

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B57R-03-BAC** **Chapel Run**

Location: Chapel Run and tributaries from the headwaters downstream to its confluence with the Shenandoah River. (Start Mile: 9.44
End Mile: 0.00 Total Impaired Size: 9.44 Miles)

City / County: Clarke Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BCPL000.95 (2 violations of 9 samples for e-coli). Initial Listing Date: 2008.

Chapel Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			9.44

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B57R-03-BEN** **Chapel Run**

Location: Chapel Run and tributaries from the headwaters downstream to its confluence with the Shenandoah River. (Start Mile: 9.44
End Mile: 0.00 Total Impaired Size: 9.44 Miles)

City / County: Clarke Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at stations: 1BCPL000.95 (Impaired for VSCI) and 1BCPL002.83 (Impaired for VSCI). Initial Listing Date: 2006.

Chapel Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			9.44

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B58R-02-BAC** Dog Run

Location: Dog Run from the headwaters downstream to its confluence with the Shenandoah River. (Start Mile: 4.80 End Mile: 0.00
Total Impaired Size: 4.80 Miles)

City / County: Clarke Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BDGR000.23 (4 violations of 9 samples for e-coli). Initial Listing Date: 2008.

Dog Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			4.80

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **B58R-03-BAC** **Wheat Spring Branch**

Location: Wheat Spring Branch from the headwaters downstream to its confluence with the Shenandoah River. (Start Mile: 4.31 End Mile: 0.00 Total Impaired Size: 4.31 Miles)

City / County: Clarke Co.

Use(s): Recreation

Cause(s) /
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 1BWSB000.22 (9 violations of 9 samples for e-coli). Initial Listing Date: 2008.

Wheat Spring Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			4.31

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
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Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **CB5MH-SAV-BAY** Chesapeake Bay segment CB5MH

Location: This cause encompasses the complete CBP segment CB5MH.

City / County: Chesapeake Bay - Col Lancaster Co. Northumberland Co.

Use(s): Aquatic Life Shallow-Water Submerged
Aquatic Vegetation

Cause(s) /

VA Category: Aquatic Plants (Macrophytes) / 5A

The acres of submerged aquatic vegetation (SAV) mapped through aerial surveys does not meet the criteria in segment CB5MH. There is insufficient data to assess the water clarity criteria.

Chesapeake Bay segment CB5MH

Aquatic Life

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type: **2.677**

Chesapeake Bay segment CB5MH

Shallow-Water Submerged Aquatic Vegetation

Estuary
(Sq. Miles)

Reservoir
(Acres)

River
(Miles)

Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type: **2.677**

Sources:

Agriculture

Atmospheric Deposition -
Nitrogen

Clean Sediments

Industrial Point Source
Discharge

Internal Nutrient Recycling

Loss of Riparian Habitat

Municipal Point Source
Discharges

Sediment Resuspension
(Clean Sediment)

Sources Outside State
Jurisdiction or Borders

Wet Weather Discharges
(Point Source and
Combination of Stormwater,
SSO or CSO)

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **POTMH-DO-BAY** **Potomac Mesohaline Embayments**

Location: The tidal portion of Virginia's Potomac tributaries which enter between the oligohaline/mesohaline boundary at Mathias Point Neck and the mouth.

City / County: King George Co. Northumberland Co. Westmoreland Co.

Use(s): Aquatic Life Open-Water Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

The mesohaline portion of the Potomac River failed the open water 30-day summer dissolved oxygen criteria during the 2006 and 2008 cycles.

In addition, isolated areas of the tributaries are classified as deep water. These areas failed their 30-day dissolved oxygen criteria in 2006. However, during the 2008 cycle, they were fully supporting and will be delisted for the Deepwater Use.

There was insufficient information to assess the other dissolved oxygen criteria or the Migratory Spawning and Nursery Use.

Potomac Mesohaline Embayments	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:	32.049		
Potomac Mesohaline Embayments	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Open-Water Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:	32.049		

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Clean Sediments	Industrial Point Source Discharge
Internal Nutrient Recycling	Loss of Riparian Habitat	Municipal Point Source Discharges	Sediment Resuspension (Clean Sediment)
Source Unknown	Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)	

Appendix A - List of Impaired (Category 5) Waters in 2008*

Potomac and Shenandoah River Basins

Cause Group Code **POTMH-SAV-BAY** **Potomac Mesohaline Embayments**

Location: The tidal portion of Virginia's Potomac tributaries which enter between the oligohaline/mesohaline boundary at Mathias Point Neck and the mouth.

City / County: King George Co. Northumberland Co. Westmoreland Co.

Use(s): Aquatic Life Shallow-Water Submerged
Aquatic Vegetation

Cause(s) /
VA Category: Aquatic Plants (Macrophytes) / 5A

The mesohaline portion of the Potomac River failed the Submerged Aquatic Vegetation acreage standards during the 2006 and 2008 cycles.

There was insufficient information to assess the water clarity acreage.

Potomac Mesohaline Embayments	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type:	32.049		
Potomac Mesohaline Embayments	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shallow-Water Submerged Aquatic Vegetation			
Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type:	32.049		

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Clean Sediments	Industrial Point Source Discharge
Internal Nutrient Recycling	Loss of Riparian Habitat	Municipal Point Source Discharges	Sediment Resuspension (Clean Sediment)
Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)		